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COMPENSATION FOR TYPHOID FEVER.

WISCONSIN SUPREME COURT DECIDES THAT TYPHOID FEVER MAY BE WITHIN THE TERMS OF THE WISCONSIN WORKMEN'S COMPENSATION LAW.

The opinion of Mr. Justice Siebecker, of the Supreme Court of Wisconsin, and the dissenting opinion of Mr. Justice Barnes (pp. 329 and 331 of this issue of the Public Health Reports) are good examples of the arguments on the question whether diseases caused by conditions arising in the course of employment are the result of "accidents" as that term is used in workmen's compensation laws.

The death of an employee was caused by typhoid fever which was contracted by drinking impure water furnished by the employer. The court decided that the death was the result of an accident, and that the employer was liable under the Wisconsin law.

MORBIDITY REGISTRATION IN THE UNITED STATES.

A SUGGESTION AS TO THE FORMATION OF A PROVISIONAL REGISTRATION AREA FOR MORBIDITY.

By JOHN S. FULTON, Secretary, State Department of Health, Maryland, and JOHN S. FULTON, Jr., City Department of Health, Baltimore, Md.

Fifty years ago, a country having a reliable population counts and good mortality registration was well started in vital statistics. In these days, to have statistics of births and deaths is to be up with the procession. But to be somewhere in the advance it is necessary to have also good morbidity registration. All of the States in the registration area for deaths have notification laws for the more important infectious diseases. These laws, however, are not well operated in all the States. The laws differ in their character as much as in their operation. The United States Public Health Service has framed what is known as a "Model bill" for the notification of communicable diseases, and a standard notification card has been adopted, with the approval of the conference of State and territorial boards of health. This card and the model bill name thirty-odd notifiable diseases. The influence of the bill and the card, on the progress of registration, has

been considerable, but much recent improvement in notification is also due to the fact that the United States Public Health Service has appointed collaborating epidemiologists in localities where the cooperation of a Federal health officer with State and local departments of health could be of material advantage in improving the morbidity registration and in increasing the resulting information of the occurrence and prevalence of disease, available to the Federal, State, and local health departments. In some States the collaborating epidemiologists have furnished the practicing physicians with notification cards, which the physicians use to report to the collaborating epidemiologists their cases of preventable diseases.

In this process the town or county health officer may be wholly ignored or he may be wholly dependent upon the collaborating epidemiologist for official information concerning preventable sickness in his own bailiwick. Such an arrangement is in conflict with sound theory and sound practice in so far as the local health officers are concerned, but where no theory or practice has existed no harm is done, and a surprising amount of information has been obtained in this manner from territory in which there was previously no means of information nor any appreciable desire to be informed.

For many years the United States Public Health Service has been publishing information about the prevalence of the more important communicable diseases in the American States and in foreign countries. Within the past 8 or 10 years this work has been greatly improved and expanded. During the three years ended with 1914 the service published, in its weekly Public Health Reports, the accounts of current morbidity furnished by 31 States. Each year the Service has tabulated these morbidity figures, by States and by cities of 100,000 or greater population, with case rates and fatality rates, for 18 communicable diseases.

With this experience of three consecutive years before us, we contemplate, for the first time, the possibility of defining a registration area for morbidity. In looking for rational criteria the first thing that strikes us is the circumstance that the list of notifiable diseases varies from State to State. Next it is observed that some States are quite successful with the notification of three or four diseases, while failing unequivocally in the registration of other diseases. To distinguish fairly among the States we should take that experience which is common to all the States; that is to say, we should take the notifiable diseases which occur most regularly in all the States in sufficient number to cause significant mortality every year. Four acute infections satisfy this condition—typhoid fever, scarlet fever, measles, and diphtheria.

Examining the experience of 32 States and the District of Columbia for 1912, 1913, and 1914, we find that the indicated fatality rates

of these diseases has declined from year to year, showing that notification is more effective each year. The sickness from typhoid, scarlet fever, measles, and diphtheria recorded in the three years amounted to 1,171,247 cases, and the fatality rate was 5.95 per cent. If we divide the States into two groups, one above and the other below this mark (5.95), we shall distinguish the group of the States best entitled at this time to be admitted into a provisional registration area for morbidity. They would be 16 in number, and by name as follows: Connecticut, District of Columbia, Idaho, Montana, Kansas, Maryland, Massachusetts, Mississippi, Nevada, New York, Ohio, Oregon, South Dakota, Utah, Vermont, and Washington. Four of the States named are not now included in the registration area for deaths. These are Idaho, Nevada, Mississippi, and South Dakota. States which can not determine a general mortality rate can certainly not be depended on for the fatality rate of four causes of death. These States should not be included in a registration area for morbidity.

Mississippi's method of securing morbidity reports would also bar this State from a registration area such as that contemplated. In Mississippi physicians are required to report cases of cholera, diphtheria, epidemic cerebrospinal meningitis, poliomyelitis, smallpox, typhoid fever, and yellow fever within 24 hours to the county health officer, and whenever there occurs within a county an epidemic of any of these diseases the county health officer is required to report within five days to the secretary of the State board of health the number of cases occurring. Of the other notifiable diseases, physicians are required on the first day of each month to report the number of cases of each disease treated or examined by them during the preceding calendar month. Mississippi has been getting in this way reports of exceptionally large numbers of cases of malaria, measles, and pellagra, and the highest reported case rates of any State for tuberculosis and typhoid fever. Whether these high case rates are due in any way to fictitious or duplicated reports by physicians, or to the fact that with the method used for collecting these reports Mississippi is getting unusually complete records of cases, could be determined only by a field investigation.

The situation of several well-established registration States with respect to morbidity is quite disappointing. Maine and New Hampshire are not included, because they do not furnish morbidity returns to the United States Public Health Service.

In four of the older registration States—Rhode Island, New Jersey, Pennsylvania, and Indiana—the notification of infectious diseases is shown to be quite defective by fatality rates well in excess of the average rate for 31 States. Six younger States in the mortality registration area—California, Colorado, Minnesota, Wisconsin, Kentucky, and Virginia—show large defect in the registration of sickness.

Considering the group of 15 superior States, it is interesting to note that Utah, a very young registration State, is unequivocally best of all in the registration of sickness. Within four or five years Utah has brought the notification of infectious diseases to a better status than Massachusetts, the oldest registration State, has been able to achieve in half a century. Some part, not all, of this superiority of Utah is probably due to a provision of the law which punishes a delinquent physician by revoking his license to practice.

Morbidity registration can never be complete. Only that part of current morbidity which declares itself to the diagnostic sense of physicians can be registered. It may be assumed that three-fourths or four-fifths of the sickness from notifiable diseases comes under medical observation in these days and that the proportion will increase. This part of current morbidity can be registered within a few days of its inception, and will be so registered from the moment that health authorities begin to exact penalties for failure to notify.

The three tables following show the results of registration during the three years 1912–1914.

Table 1 shows the morbidity of cities from four causes for each of the three years. It will be seen that the morbidity registration of cities is better than that of the States in which they are situated. Such is the general rule in the registration of mortality, and we can derive from it a caution concerning morbidity registration. If the admission of States to the registration area for deaths were conditioned on evidence that the mortality records for unincorporated territory exceed 90 per cent of deaths occurring, some States would be excluded. The mortality registration of cities is required to give some States a total registration better than 90 per cent.

That mortality registration is better in cities is only a general rule. In exceptional cases one finds that births and sickness are better registered in smaller towns and country districts than in large cities. This emphasizes the need of caution with respect to divisions of the registration districts, and it shows that a fatality test to be effective should be revised every two or three years.

Table 2 shows the experience of all States for each of the three years.

Table 3 shows the experience of each of the States, with each of the four diseases for all the time (three years).

It is seen that New Jersey does not register measles. The probability is that if measles were as well registered as the other three diseases, the fatality figure would have been under 5.95. It also suggests that there might be some advantage in using a single disease—typhoid fever—as a general test of efficiency of registration.

TABLE 1.—*Prevalence of typhoid, measles, scarlatina, and diphtheria in certain American cities, with indicated fatality rates per 100 cases (1912, 1913, 1914).*

Disease.	1912			1913			1914			Total.		
	Cases.	Deaths.	Fatality.	Cases.	Deaths.	Fatality.	Cases.	Deaths.	Fatality.	Cases.	Deaths.	Fatality.
Typhoid fever	14,013	2,073	14.78	15,535	2,436	15.68	14,031	2,323	16.55	43,579	6,832	15.67
Measles	91,643	1,507	1.64	144,910	2,333	1.61	86,416	1,344	1.55	322,969	5,184	1.605
Scarlet fever	40,309	1,888	4.68	45,841	2,547	5.55	43,604	1,857	4.26	129,754	6,292	4.85
Diphtheria	44,761	4,081	9.11	54,454	5,055	9.26	59,494	5,086	8.54	158,709	14,222	8.96
Total	190,726	9,549	5.0006	260,740	12,371	4.74	203,545	10,610	5.21	655,011	32,530	4.96

TABLE 2.—*Prevalence of typhoid fever, measles, scarlatina, and diphtheria in certain American States, with indicated fatality rates per 100 cases (1912, 1913, 1914).*

Disease.	1912			1913			1914			Total.		
	Cases.	Deaths.	Fatality.	Cases.	Deaths.	Fatality.	Cases.	Deaths.	Fatality.	Cases.	Deaths.	Fatality.
Typhoid fever	40,633	7,181	17.67	42,950	7,103	16.54	38,425	5,947	15.47	122,008	20,231	16.58
Measles	159,059	2,868	1.79	167,880	2,957	1.76	144,803	2,488	1.71	471,742	8,313	1.76
Scarlet fever	71,669	3,284	4.58	74,326	3,815	5.13	66,351	2,630	3.96	212,346	9,729	4.58
Diphtheria	72,148	8,227	11.40	73,928	7,475	10.10	74,356	7,130	9.58	220,432	22,832	10.35
Total	343,509	21,560	6.42	359,084	21,350	5.94	323,935	18,195	5.61	1,026,528	61,105	5.95

TABLE 3.—*Deaths, cases, and indicated fatality rates per 100 cases by States, for the years 1912, 1913, and 1914, separately for typhoid fever, measles, scarlet fever, diphtheria, and their total.*

State.	Typhoid fever.			Measles.			Scarlet fever.			Diphtheria.			Total.		
	Cases.	Deaths.	Fatality.	Cases.	Deaths.	Fatality.	Cases..	Deaths.	Fatality.	Cases.	Deaths.	Fatality.	Cases.	Deaths.	Fatality.
Alabama	1,303	565	43.36	.....	.....	.....	352	17	4.82	510	145	28.4	2,165	727	33.58
Arizona	.....	.....	.....	129	35	2.71	242	28	11.14	121	39	32.2	492	102	20.73
California	3,294	811	24.62	10,618	304	2.84	4,526	168	3.71	4,338	448	10.3	22,806	1,731	7.59
Connecticut	2,612	365	13.97	17,742	359	2.03	6,280	284	4.51	7,257	639	8.8	33,900	1,647	4.86
District of Columbia	1,386	180	12.98	8,296	33	.39	1,126	18	1.59	1,375	72	5.2	12,183	303	2.47
Hawaii	591	152	25.77	422	7	1.65	40	4	10.00	613	61	9.9	1,666	224	13.80
Idaho	176	44	25.00	822	6	.73	207	10	4.83	28	4	14.3	1,233	64	5.19
Illinois	13,004	2,206	16.96	23,687	409	1.72	34,602	2,118	6.12	33,915	3,742	11.0	105,208	8,475	8.05
Indiana	8,103	1,820	22.48	12,074	147	1.22	12,308	399	3.24	11,979	1,361	11.4	44,464	3,727	8.38
Iowa	.....	.....	.....	.....	.....	.....	2,830	192	7.78	2,945	438	14.8	5,775	630	10.90
Kansas	4,274	776	18.15	14,035	204	1.45	4,091	132	3.22	2,970	337	11.4	25,370	1,449	5.71
Louisiana	524	83	15.85	794	9	1.13	204	2	.98	1,794	114	6.4	3,316	208	6.27
Maryland	6,639	732	11.02	9,027	127	1.40	3,085	76	2.45	2,622	312	11.9	21,373	1,247	5.83
Massachusetts	4,486	548	12.21	50,549	785	1.55	13,693	429	3.13	12,168	1,097	9.1	80,896	2,859	3.56
Michigan	7,103	1,443	21.72	21,276	532	2.50	11,706	628	1.94	13,627	1,565	11.5	53,712	4,168	7.76
Mississippi	6,179	624	10.09	17,967	328	1.82	325	4	1.23	1,089	195	17.1	25,560	1,151	4.50
Minnesota	3,955	676	17.09	8,818	286	3.24	11,583	606	5.27	8,962	729	8.1	33,318	2,227	6.89
Montana	1,332	194	14.56	5,196	40	.77	2,103	128	6.08	540	57	10.6	9,171	419	4.57
Nevada	185	18	9.73	434	1	.23	134	3	2.24	12	1	8.3	765	23	3.00
New Jersey	4,854	805	16.58	.....	.....	.....	15,140	596	3.93	17,831	1,651	9.2	37,825	3,052	8.07
New York	18,099	2,980	16.46	178,252	2,941	1.64	54,586	2,235	4.20	60,792	5,454	7.3	311,729	13,670	4.38
Oklahoma	4,836	718	14.94	3,347	140	4.18	1,786	81	4.53	1,727	257	14.8	11,696	1,196	10.22
Oregon	909	214	23.54	4,795	67	1.39	1,642	53	3.22	913	91	10.0	8,259	425	5.14
Pennsylvania	6,343	1,310	20.65	34,715	845	2.43	8,445	552	6.53	12,564	2,042	16.5	61,867	4,749	7.68
Porto Rico	383	133	34.72	.....	.....	.....	.....	.....	.....	131	41	31.3	514	174	33.85
Rhode Island	405	58	14.32	816	60	7.35	1,682	42	3.88	990	106	10.7	3,293	266	8.07
South Dakota	285	56	19.68	2,954	30	1.01	902	31	3.43	437	36	8.2	4,578	153	3.34
Utah	2,190	212	9.68	15,956	146	.91	3,012	46	1.52	992	92	9.3	22,150	496	2.24
Vermont	512	113	22.07	3,491	29	.83	1,189	38	3.19	1,095	90	8.2	6,287	270	4.29
Virginia	14,222	1,453	10.21	.....	.....	.....	4,080	41	1.00	8,208	668	9.3	26,510	2,162	8.53
Washington	1,466	270	18.41	9,571	142	1.48	1,582	51	3.22	1,054	88	8.4	13,673	551	4.03
Wisconsin	2,237	634	28.34	15,389	288	1.87	9,225	640	6.93	6,967	847	12.2	33,818	2,409	7.12
Wyoming	121	38	31.40	540	13	2.41	229	17	7.42	66	13	19.7	956	81	8.47
Total	122,008	20,231	16.58	471,742	8,313	1.76	212,346	9,729	4.58	220,432	22,832	10.35	1,026,528	61,105	5.95

ANOPHELES PUNCTIPENNIS SAY.

ITS RELATION TO THE TRANSMISSION OF MALARIA—REPORT OF EXPERIMENTAL DATA RELATIVE TO SUBTERTIAN[1] MALARIAL FEVER.

By M. Bruin Mitzmain, Technical Assistant, United States Public Health Service.

The wide occurrence of *Anopheles punctipennis* Say, in the United States and its biologic relations in certain localities where malarial incidence has been investigated by the United States Public Health Service, have made it highly desirable more closely to investigate the possible rôle played by this insect in the transmission of malarial fevers.

The only record of previous work, available in literature, is that of Hirshberg.[2] This, while complete in itself, was not considered by Surg. R. H. von Ezdorf, in charge of malarial investigations, to be adequate definitely to exclude this anopheline as a carrier. It was under Dr. von Ezdorf's direction that the present researches were undertaken.

It is here presumed that negative results can not, as is well known, be concluded unless a large number of specimens have been used under the most favorable conditions. On this account an effort was made, in the experiments outlined, to make the study as exhaustive as the material would permit. It is not, however, advanced that the results obtained from experimental procedure furnish a true criterion of what occurs under natural environments. In the present experiments no special attempts were made to simulate natural conditions; indeed, a relatively low temperature was sustained throughout, in order to insure longevity of the insects under observation, and the majority of the parasitized mosquitoes were kept for long periods prior to dissection. In addition, the number of feedings was made sufficient to secure the maximum possibilities for infection.

The present investigation was limited to subtertian malaria, as suitable material for similar studies with the tertian variety, which had also been planned, was not available at the inception of the work.

Two series of experiments were attempted; one, with recently emerged mosquitoes and a heavily infected carrier undergoing quinine treatment; the other, with older mosquitoes and a lighter human infection, untreated. The anophelines used were bred mosquitoes, which emerged August 25–26, 1915. The material for the second series was kept for 29 to 30 days prior to any experimental use by feeding on a healthy laboratory attendant.

The containers employed were lantern chimneys kept in deep glass trays, lined with a layer of absorbent cotton, covered with

[1] Subtertian is here used synonymously with estivo-autumnal.

[2] Hirshberg, L. K. An Anopheles mosquito which does not transmit malaria. Bull. Johns Hopkins Hospital, Baltimore. Vol. XV, No. 155, Feb., 1904, pp. 53–56.

heavy blotting paper and kept constantly saturated with water. Food material of raisins and prunes was placed from time to time on the upper ends of the screened chimneys. The temperature maintained throughout the series was 21 to 22° C. in an electric low temperature incubator. Here there was a fluctuation of ½ to 1 degree by the use of ice in the cooling chamber of the incubator. In the second series ice was not employed, the temperature thus influenced by that of the room having a greater range; it registered 18 to 24° C.

The material available for the initial infection of the experimental mosquitoes is stated in the following table:

TABLE No. 1.—*Giving the number of mosquitoes applied daily and percentage of gametocytes present in the blood.*

Date.	Gametocyte count [1] per 100 leucocytes.	Number of *Anoph. punctipennis* observed to bite.	Number of *Anoph. quadrimaculatus* observed to bite.	Date.	Gametocyte count [1] per 100 leucocytes.	Number of *Anoph. punctipennis* observed to bite.	Number of *Anoph. quadrimaculatus* observed to bite.
1915.				1915.			
Sept. 4	16	7	.....	Sept. 19	29	63	.....
7	33	15	5	20	15	49	.....
9	16	27	.....	21	3	31	.....
10	48	53	8	22	4	32	.....
11	69	23	4	23	5	21	.....
12	33	37	2	24	3	39	.....
13	30	7	6	25	2	21	.....
14	28	50	3	26	2	8	.....
15	24	44	2	27	3	10	.....
16	17	38	.....				
17	9	57	.....	Total	.....	664	30
18	18	62	.....				

[1] Determinations made from thick and thin blood smears, stained, counting 200 to 400 leucocytes.

Table No. 1 gives the number of bites received by 152 specimens of *A. punctipennis*, which survived three days or longer and were suitable for dissection; the others are not tabulated. It will be seen that during the period September 4 to 27 the patient was bitten 664 times. The mosquitoes were applied twice daily and were permitted to engorge themselves. The specimens of *A. quadrimaculatus* used as controls in this experiment were observed to bite 30 times.

In order to gauge accurately the proportion of mosquitoes in which bloodsucking occurred, the insects from the various cages are grouped in the following table:

TABLE No. 2.—*Giving the average number of bites obtained by mosquitoes (A. punctipennis) grouped as to cages.*

Cage No.	Number mosquitoes applied.	Period of feeding.[1]	Number of bites per group.	Average number of bites per mosquito.	Cage No.	Number mosquitoes applied.	Period of feeding.[1]	Number of bites per group.	Average number of bites per mosquito.
		Days.					*Days.*		
1	4	3	6	1.5	12	14	14	81	5.7
2	7	5	21	3.0	13	4	14	38	9.5
3	7	3	14	2.0	14	13	14	83	6.4
4	4	5	8	2.0	15	8	14	45	5.6
5	4	3	19	4.7	16	8	14	52	6.5
6	3	3	14	4.6	17	15	14	68	4.5
7	7	7	18	2.5	18	12	14	58	4.8
8	4	5	20	5.0	19	16	9	32	2.0
9	3	11	20	6.6	20	6	9	14	2.3
10	2	11	12	6.0	21	8	9	32	4.0
11	3	11	9	3.0					

[1] Period of successive days during which mosquitoes were applied repeatedly.

SUMMARY.

Number of mosquitoes.	Number of bites.	Number of mosquitoes.	Number of bites.
4	1–2	22	5–6
27	2	2	6
13	2–3	24	6–7
10	3	4	9–10
8	4		
34	4–5	152[1]	[2] 4.3
4	5		

[1] Total. [2] Average.

It will be observed from Table No. 2 that the mosquitoes applied and later dissected received an average of more than four feedings, ranging from 1 to 10 bites per mosquito.

In the following table recording dissections, the counts are tabulated beginning after the initial feeding on the infected host. Only toward the end of the experiment were the mosquitoes killed for the purpose of examination; for the most part the dissections were made of feeble or dying specimens.

TABLE No. 3.—*Tabulating the dissections of A. punctipennis beginning three days after biting.*

Number of days after biting.	Number of mosquitoes dissected.	Number of days after biting.	Number of mosquitoes dissected.
3	6	21	2
4	6	23	5
5	9	24	6
6	7	25	5
7	6	26	2
8	8	27	2
11	2	29	12
12	1	30	7
13	2	31	7
14	1	32	8
15	6	33	15
16	2	36	1
17	4	37	1
18	6	38	1
19	3		
20	9	Total	152

It is to be noted in connection with this series that the individual upon whom these mosquitoes were allowed to feed was at the time undergoing quinine medication. From September 6 to 9 he was given 120 grains of quinine bisulphate, and September 10 to 19, 400 grains, all in acid solution. He received no quinine from September 20 to 27, after which date observations were discontinued.

For the further determination of the possible infectivity of these *A. punctipennis*, two healthy persons who had never suffered an attack of malarial fever and whose blood was negative upon repeated examinations, volunteered to permit these mosquitoes to bite them. The mosquitoes were applied in two lots from 4 to 33 days after feeding upon the blood of the individual whose gametocytes are enumerated in Table No. 1. The table which follows presents the number of bites received by the two volunteers:

TABLE No. 4.—*Detailing the control human experiments in attempting to transmit by A. punctipennis.*

Number of days elapsing since biting malaria carrier.	Number of mosquitoes biting volunteers.		Number of days elapsing since biting malaria carrier.	Number of mosquitoes biting volunteers.	
	M. B. M.	H. E. H.		M. B. M.	H. E. H.
4	7	.....	19	6	1
6	3	.....	20	1	6
7	.....	9	21	.....	4
8	10	3	22	2	5
9	3	8	23	2	11
10	11	7	24	1	.....
11	2	3	25	2	.....
12	12	12	26	.....	7
13	2	10	27	1	17
14	.....	25	28	3	1
15	9	17	33	.....	4
16	4	14			
17	10	10	Total	91	189
18	.....	6			

The experiments were controlled by the parallel feeding of 14 specimens of *A. quadrimaculatus* on the same infected individual used throughout series 1. These mosquitoes were reared from larvæ in the laboratory and applied in two groups, averaging one to two bites for each specimen. Two of these showed infection; one, after an incubation of eight days, showed 12 sporoblastic oocysts of various sizes, one of which was mature; the second, after 17 days incubation, showed one large and several half-grown oocysts. The sporozoites of the ripe oocyst when stained appeared indistinguishable from similar bodies crushed from the salivary glands of infected mosquitoes; of these there were counted 205, which, with the exception of 43, were apparently mature.

An accidental check by the bite of the second infected mosquito, *A. quadrimaculatus*, occurred inadvertantly in this experiment, one of the personnel of the laboratory force being bitten on September 28, 15 days after this insect had fed on the blood of the gametocyte

carrier. A sharp attack of subtertian malarial fever followed after an incubation period of 11 days, the initial paroxysm occurring on October 8, and characteristic ring forms of the subtertian parasite being found in the peripheral blood; treatment was deferred for three days, during which the diagnosis was amply substantiated.

Series 2.

In series 2, it was thought desirable to employ older specimens of *A. punctipennis* to determine if any age differences influenced the susceptibility of mosquitoes to plasmodial infection. In the second series, the mosquitoes used were at least 29 to 30 days old at the beginning of the experiment. One of these survived to the age of 82 days, and another lived 111 days.

The case was one of subtertian malarial fever which had not received any specific treatment during the 14 days prior to use in the infection experiments, specific treatment being withheld also during the six days mosquitoes were applied. Table No. 5 outlines the number of bites by the mosquitoes and the gametocyte counts during the six days, October 25 to 30, 1915.

TABLE No. 5.—*Giving the record of biting of subtertian carrier by Anopheles punctipennis and controls.*

Date.	Gametocyte count [1] per 100 leucocytes.	Number of *A. punctipennis* biting.	Number of *A. quadrimaculatus* biting.	Number of *A. crucians* biting.	Date.	Gametocyte count [1] per 100 leucocytes.	Number of *A. punctipennis* biting.	Number of *A. quadrimaculatus* biting.	Number of *A. crucians* biting.
1915.					1915.				
Oct. 25	20	37	21	3	Oct. 28	4	24	20	.....
26	7	34	18	1	29	3	19	22	.....
27	6	27	16	2	30	3	17	7	.....

[1] Determined in stained thick and thin blood smears; 200 to 400 leucocytes counted.

In this series, 67 specimens of *A. punctipennis*, 60 specimens of *A. quadrimaculatus*, and 3 specimens of *A. crucians* were dissected. These are tabulated in Table No. 6.

TABLE No. 6.—*Showing number and species of mosquitoes dissected in series No. 2.*

Number of days elapsing since biting malaria carrier.	*Anopheles punctipennis.*	*Anopheles quadrimaculatus.*	*Anopheles crucians.*	Number of days elapsing since biting malaria carrier.	*Anopheles punctipennis.*	*Anopheles quadrimaculatus.*	*Anopheles crucians.*
4	2	.....	.....	17	1	1	.....
6	6	6	.....	18	11	3	1
7	1	6	.....	19	13	1	.....
8	.....	2	.....	20	5	2	.....
9	3	8	.....	21	5	2	.....
10	2	11	.....	22	3	3	.....
11	3	6	.....	23	2	1	.....
12	1	1	2	25	2	.....	.....
14	1	1	.....				
15	5	3	.....	Total	67	60	3
16	1	3	.....				

Table No. 7 refers to the same series of mosquitoes divided into groups of *A. punctipennis*, and *A. quadrimaculatus*, showing the number of bites obtained by each.

TABLE NO. 7.—*Giving the average number of bites on malarial carrier by mosquitoes arranged in groups.*

ANOPHELES PUNCTIPENNIS.

Cage number.	Number of mosquitoes applied.	Total number of bites.	Average number of bites per mosquito.
24	11	14	1.2
25	9	34	3.7
26	8	14	1.7
27	14	28	2.0
28	9	36	4.0
29	12	23	1.9
30	3	7	2.3
31	1	2	2.0

ANOPHELES QUADRIMACULATUS.

32	8	23	2.8
33	10	23	2.3
34	11	12	1.0
36	12	19	1.5
37	9	9	1.0
38	10	18	1.8

SUMMARY.

A. punctipennis.		A. quadrimaculatus.	
Number of mosquitoes.	Number of bites.	Number of mosquitoes.	Number of bites.
31	1-2	20	
15	2	22	1-1
3	2-3	18	2-2
9	3-4		
9	4		
67 [1]	[2] 2.3	60 [1]	[2] 1.7

[1] Total. [2] Average.

The *Anopheles punctipennis* of this series were tested also for infectivity by feeding them upon a healthy volunteer. During a period of 34 days this individual was bitten 22 times, with negative results.

A total of 8 specimens of the 60 *Anopheles quadrimaculatus* employed in series 2 showed infection, as did also 1 of the 3 *Anopheles crucians*. The *A. quadrimaculatus* controls, which became infected, were dissected as follows: Three specimens, 11 days after biting the infected host, one 1 time and two 2 times; one specimen, 12 days after biting, twice; one specimen, 13 days after biting, 3 times; and

three specimens, 22 days after biting, one 1 time, one 2 times, and one 3 times. Gland sporozoites were seen in only one after 13 days and one after 22 days' incubation.

The oocysts in the infected *Anopheles crucians*, which had fed twice on a gamete carrier, had developed during 15 to 18 days prior to the dissection. Examination of this insect showed 8 well-defined mature oocysts on the wall of the mid-gut, 6 of these appearing to be ready for rupture, with liberation of their contained sporozoites.

SUMMARY.

1. Two hundred and nineteen specimens of *Anopheles punctipennis* Say were dissected from 3 to 38 days after multiple bites on individuals whose blood contained varying numbers of subtertian gametocytes (estivo-autumnal crescents). No infection was observed in the dissection of stomachs and salivary glands.

2. Two healthy individuals were bitten 91 and 180 times by specimens of *Anopheles punctipennis*, 4 to 33 days after sucking blood of a subtertian malarial carrier. In this experiment, and, subsequently in the employment of a healthy volunteer to feed 22 additional mosquitoes of this same species, *Anopheles punctipennis* Say could not be incriminated in the transmission of subtertian malarial fever.

The negative results in this experiment check only with the negative findings in the dissections of *A. punctipennis*, as it is recognized that the volunteers were not under absolute control; that is, because of the possible exposure to bites from infected anophelines while living in New Orleans.

3. Control feedings with 74 specimens of *Anopheles quadrimaculatus* Say resulted in an infection of 13.8 per cent, and with 3 specimens of *Anopheles crucians* Wied. of 33.3 per cent.

4. The coincidence in which one person developed subtertian malaria 11 days following the single bite of an *A. quadrimaculatus* that had become infected (as shown by dissection) 17 days previously by biting a heavily infected carrier, pointed strongly to this as the source of infection.

This might be offered as an additional check in the experiment, recognizing, however, the limitations that might be placed on it because of lack of absolute control of the volunteer living in New Orleans.

PLAGUE-PREVENTION WORK.

LOUISIANA—NEW ORLEANS—PLAGUE ERADICATION.

The following report of plague-eradication work at New Orleans for the week ended January 29, 1916, was received from Surg. Creel, of the United States Public Health Service, in charge of the work:

OUTGOING QUARANTINE.

Vessels fumigated with sulphur	14
Vessels fumigated with carbon monoxide	15
Vessels fumigated with cyanide gas	6
Sulphur used, pounds	995
Coke consumed in carbon-monoxide fumigation, pounds	20,300
Cyanide used in cyanide-gas fumigation, pounds	128
Sulphuric acid used in cyanide-gas fumigation, pints	192
Clean bills of health issued	32
Foul bills of health issued	2

FIELD OPERATIONS.

Rodents trapped	7,629
Premises inspected	7,783
Notices served	750
Poisons placed	4,697
Garbage cans installed	8

BUILDINGS RAT PROOFED.

By elevation	159
By marginal concrete wall	171
By concrete floor and wall	175
By minor repairs	302
Total buildings rat proofed	807
Square yards of concrete laid	8,716
Premises, planking and shed flooring removed	160
Buildings demolished	114
Total buildings rat proofed to date (abated)	100,730

LABORATORY OPERATIONS.

Rodents received by species:	
Mus rattus	272
Mus norvegicus	893

LABORATORY OPERATIONS—continued.

Rodents received by species—Continued.	
Mus alexandrinus	281
Mus musculus	6,049
Wood rats	169
Muskrats	9
Putrid (included in enumeration of species)	67
Total rodents received at laboratory	7,673
Rodents examined	2,059
Number of rats suspected of plague	[1] 66
Plague rats confirmed	1

PLAGUE RAT.

Case No. 276:
Address, Clio and South Derbigny Streets (city dump).
Captured, Jan. 6, 1916.
Diagnosis confirmed, Jan. 24, 1916.
Treatment of premises: Intensive trapping.

PLAGUE STATUS TO JAN. 29, 1916.

Last case of human plague, Sept. 8, 1915.	
Last case of rodent plague, Jan. 24, 1916.	
Total number of rodents captured to Jan. 29	591,140
Total number of rodents examined to Jan. 29	322,682
Total cases of rodent plague to Jan. 29, by species:	
Mus musculus	6
Mus rattus	18
Mus alexandrinus	11
Mus norvegicus	241
Total rodent cases to Jan. 29, 1916	276

WASHINGTON—SEATTLE—PLAGUE ERADICATION.

The following reports of plague-eradication work at Seattle were received from Surg. Lloyd, of the United States Public Health Service, in charge of the work:

WEEK ENDED DEC. 11, 1915.

RAT PROOFING.

New buildings inspected	11
New buildings reinspected	45
Basements concreted, new buildings (square feet, 27,250)	25

RAT PROOFING—continued.

Floors concreted, new buildings (square feet 39,600)	11
Yards, etc., concreted, new buildings (square feet, 1,750)	2

[1] Number of rodents the tissues of which were inoculated into guinea pigs. Most of them showed on necropsy only evidence of recent inflammatory process; practically none presented gross lesions characteristic of plague infection.

RAT PROOFING—continued.

Total concrete laid, new structures (square feet)	68,600
New buildings elevated	3
New premises rat proofed, concrete	36
Old buildings inspected	2
Wooden floors removed, old buildings	2
Buildings razed	2

LABORATORY AND RODENT OPERATIONS.

Dead rodents received	14
Rodents trapped and killed	424
Rodents recovered after fumigation	10
Total	448
Rodents examined for plague infection	318
Rodents proven plague infected	None.
Poison distributed (pounds)	24
Bodies examined for plague infection	3
Bodies found plague infected	None.

CLASSIFICATION OF RODENTS.

Mus rattus	10
Mus alexandrinus	45
Mus norvegicus	303
Mus musculus	80
Unclassified	10

WATER FRONT.

Vessels inspected and histories recorded	11
Vessels fumigated	2
Sulphur used (pounds)	710
New rat guards installed	11

WATER FRONT—continued.

Defective rat guards repaired	19
Fumigation certificates issued	2
Port sanitary statements issued	52

The usual day and night patrol was maintained to enforce rat guarding and fending.

MISCELLANEOUS WORK.

Rat-proofing notices sent to contractors, new buildings	14
Letters sent in re rat complaints	5

RODENTS EXAMINED IN EVERETT.

Mus norvegicus trapped	31
Mus musculus trapped	3
Total	34
Rodents examined for plague infection	32
Rodents proven plague infected	None.

RAT-PROOFING OPERATIONS IN EVERETT.

New buildings inspected	9
New buildings, concrete foundations	7
New buildings, elevated 18 inches	2
New buildings, basements concreted (square feet, 1,336)	2
New buildings, floors concreted (square feet, 5,760)	1
New buildings, yards concreted (square feet, 1,316)	5
Total concrete laid, new buildings (square feet)	8,412

WEEK ENDED DEC. 18, 1915.

RAT PROOFING.

New buildings inspected	44
New buildings reinspected	15
Basements concreted, new buildings (square feet, 26,750)	16
Floors concreted, new buildings (square feet, 14,250)	8
Yards, etc., concreted, new buildings (square feet, 1,250)	3
Total concrete laid, new structures (square feet)	42,250
New buildings elevated	4
New premises rat proofed, concrete	24
Old buildings inspected	5
Premises rat proofed, concrete, old buildings	2
Floors concreted, old buildings (square feet, 3,750)	2
Buildings razed	2

LABORATORY AND RODENT OPERATIONS.

Dead rodents received	29
Rodents trapped and killed	332
Rodents recovered after fumigation	8
Total	369
Rodents examined for plague infection	281
Rodents proven plague infected	None.
Poison distributed (pounds)	16
Bodies examined for plague infection	3
Bodies found plague infected	None.

CLASSIFICATION OF RODENTS.

Mus rattus	27
Mus alexandrinus	57
Mus norvegicus	225
Mus musculus	52
Unclassified	8

WATER FRONT.

Vessels inspected and histories recorded	9
Vessels fumigated	1
Sulphur used (pounds)	1,200
New rat guards installed	12
Defective rat guards repaired	14
Fumigation certificates issued	1
Port sanitary statements issued	36

The usual day and night patrol was maintained to enforce rat guarding and fending.

MISCELLANEOUS WORK.

Rat proofing notices sent to contractors, new buildings	16
Letters sent in re rat complaints	6
New restaurants inspected	10

RODENTS EXAMINED IN EVERETT.

Mus norvegicus trapped	33
Mus norvegicus found dead	3
Mus alexandrinus trapped	2
Mus musculus trapped	1

RODENTS EXAMINED IN EVERETT—continued.

Mus musculus found dead	1
Total	40
Rodents examined for plague infection	38
Rodents proven plague infected	None

RAT-PROOFING OPERATIONS IN EVERETT.

New buildings inspected	5
New buildings, concrete foundations	4
New buildings elevated 18 inches	1
New buildings, basements concreted (square feet, 2,600)	2
New buildings, floors concreted (square feet, 800)	1
Total concrete laid, new buildings (square feet)	3,400
Old buildings, yards concreted (square feet, 235)	1

WEEK ENDED DEC. 25, 1915.

RAT PROOFING.

New buildings inspected	19
New buildings reinspected	32
Basements concreted, new buildings (square feet, 27,250)	17
Floors concreted, new buildings (square feet, 16,745)	14
Yards, etc., concreted, new buildings (square feet, 3,470)	4
Total concrete laid, new structures (square feet)	47,465
New buildings elevated	3
New premises rat proofed, concrete	31
Old buildings inspected	3
Premises rat proofed, concrete, old buildings	2
Floors concreted, old buildings (square feet, 3,650)	2
Premises otherwise rat proofed, old building	1
Wooden floors removed, old buildings	2
Doors rat proofed, old buildings	2
Buildings razed	3

LABORATORY AND RODENT OPERATIONS.

Dead rodents received	13
Rodents trapped and killed	271
Rodents recovered after fumigation	15
Total	299
Rodents examined for plague infection	210
Rodents proven plague infected	None.
Poison distributed (pounds)	13
Bodies examined for plague infection	5
Bodies found plague infected	None.

CLASSIFICATION OF RODENTS.

Mus rattus	11
Mus alexandrinus	36
Mus norvegicus	184
Mus musculus	53
Unclassified	15

WATER FRONT.

Vessels inspected and histories recorded	14
Vessels fumigated	2
Sulphur used (pounds)	2,300
New rat guards installed	14
Defective rat guards repaired	24
Fumigation certificates issued	2
Port sanitary statements issued	33

The usual day and night patrol was maintained to enforce rat guarding and fending.

MISCELLANEOUS WORK.

Rat-proofing notices sent to contractors, new buildings	8
Letters sent in re rat complaints	2

RODENTS EXAMINED IN EVERETT.

Mus norvegicus trapped	30
Mus norvegicus found dead	1
Mus musculus trapped	2
Total	33
Rodents examined for plague infection	31
Rodents proven plague infected	None.

RAT-PROOFING OPERATIONS IN EVERETT.

New buildings inspected	3
New buildings, concrete foundations	3
New buildings, basements concreted (square feet, 1,352)	1
New buildings, floors concreted (square feet, 6,440)	2
Total concrete laid, new buildings (square feet)	7,792

WEEK ENDED JAN. 1, 1916.

RAT PROOFING.

New buildings inspected	26
New buildings reinspected	28
Basements concreted, new buildings (square feet, 13,275)	14
Floors concreted, new buildings (square feet, 9,750)	6
Yards, etc., concreted new buildings (square feet, 675)	1
Total concrete laid, new structures (square feet)	23,700
New buildings elevated	3
New premises rat proofed, concrete	20
Old buildings inspected	3
Buildings razed	2

LABORATORY AND RODENT OPERATIONS.

Dead rodents received	20
Rodents trapped and killed	276
Rodents recovered after fumigation	18
Total	314
Rodents examined for plague infection	210
Rodents proven plague infected	None.
Poison distributed (pounds)	14
Bodies examined for plague infection	14
Bodies found plague infected	None.

CLASSIFICATION OF RODENTS.

Mus rattus	14
Mus alexandrinus	53

CLASSIFICATION OF RODENTS—continued.

Mus norvegicus	170
Mus musculus	59
Unclassified	18

WATER FRONT.

Vessels inspected and histories recorded	13
Vessels fumigated	2
Sulphur used (pounds)	1,400
New rat guards installed	12
Defective rat guards repaired	27
Fumigation certificates issued	2
Port sanitary statements issued	32

The usual day and night patrol was maintained to enforce rat guarding and fending.

MISCELLANEOUS WORK.

Rat-proofing notices sent to contractors, new buildings	9
Letters sent in re rat complaints	4

RODENTS EXAMINED IN EVERETT.

Mus norvegicus trapped	34
Mus norvegicus found dead	1
Mus alexandrinus trapped	1
Mus musculus trapped	2
Total	38
Rodents examined for plague infection	35
Rodents proven plague infected	None.

RAT-PROOFING OPERATIONS IN EVERETT.

New buildings inspected	11
New buildings, concrete foundations	10
New buildings elevated 18 inches	1
New buildings, basements concreted (square feet, 4,840)	6
New buildings, yards concreted (square feet, 612)	3
Total concrete laid, new buildings (square feet)	5,452

WEEK ENDED JAN. 8, 1916.

RAT PROOFING.

New buildings inspected	16
New buildings reinspected	8
Basements concreted, new buildings (square feet, 16,275)	16
Floors concreted, new buildings (square feet, 13,270)	7
Yards, etc., concreted, new buildings (square feet, 960)	2
Total concrete laid, new structures (square feet)	30,505
New buildings elevated	5
New premises rat proofed, concrete	23
Buildings razed	2

LABORATORY AND RODENT OPERATIONS.

Dead rodents received	7
Rodents trapped and killed	296
Rodents recovered after fumigation	27
Total	330
Rodents examined for plague infection	199
Rodents proven plague infected	None.
Poison distributed (pounds)	14
Bodies examined for plague infection	8
Bodies found plague infected	None.

CLASSIFICATION OF RODENTS.

Mus rattus	9
Mus alexandrinus	40

CLASSIFICATION OF RODENTS—continued.

Mus norvegicus	175
Mus musculus	79
Unclassified	27

WATER FRONT.

Vessels inspected and histories recorded	11
Vessels fumigated	3
Sulphur used (pounds)	3,750
New rat guards installed	9
Defective rat guards repaired	11
Fumigation certificates issued	3
Port sanitary statements issued	47

The usual day and night patrol was maintained to enforce rat guarding and fending.

MISCELLANEOUS WORK.

Rat-proofing notices sent to contractors, new buildings	14
Letters sent in re rat complaints	4

RODENTS EXAMINED IN EVERETT.

Mus norvegicus trapped	31
Mus musculus trapped	15
Total	46
Rodents examined for plague infection	37
Rodents proven plague infected	None.

WEEK ENDED JAN. 15, 1916.

RAT PROOFING.

New buildings inspected	6
New buildings reinspected	31
Basements concreted, new buildings (square feet, 19,275)	9
Floors concreted, new buildings (square feet, 22,560)	6
Yards, etc., concreted, new buildings (square feet, 650)	1

RAT PROOFING—continued.

Total concrete laid, new structures (square feet)	42,485
New buildings elevated	4
New premises rat proofed, concrete	15
Old buildings inspected	2
Premises rat proofed, concrete, old building	1
Floors concreted, old building (square feet, 7,500)	1

RAT PROOFING—continued.

Wooden floors removed, old building	1
Building razed	1

LABORATORY AND RODENT OPERATIONS.

Dead rodents received	17
Rodents trapped and killed	289
Rodents recovered after fumigation	42
Total	348
Rodents examined for plague infection	244
Rodents proven plague infected	None.
Poison distributed (pounds)	11
Bodies examined for plague infection	1
Bodies found plague infected	None.

CLASSIFICATION OF RODENTS.

Mus rattus	17
Mus alexandrinus	98
Mus norvegicus	149
Mus musculus	84

WATER FRONT.

Vessels inspected and histories recorded	9
Vessels fumigated	1
Sulphur used (pounds)	1,100
New rat guards installed	8
Fumigation certificates issued	1
Port sanitary statements issued	38

The usual day and night patrol was maintained to enforce rat guarding and fending.

MISCELLANEOUS WORK.

Rat proofing notices sent to contractors, new buildings	13
Letters sent in re rat complaints	5
Lectures on sanitary measures	2
New restaurants inspected	9

RODENTS EXAMINED IN EVERETT.

Mus norvegicus trapped	44
Mus musculus trapped	1
Total	45
Rodents examined for plague infection	44
Rodents proven plague infected	None.

WEEK ENDED JAN. 22, 1916.

RAT PROOFING.

New buildings reinspected	56
Basements concreted, new buildings (square feet, 13,250)	9
Floors concreted, new buildings (square feet, 10,356)	3
Yards, etc., concreted, new buildings (square feet, 2,725)	4
Total concrete laid, new structures (square feet)	26,331
New buildings elevated	4
New premises rat-proofed, concrete	12
Old buildings inspected	2

LABORATORY AND RODENT OPERATIONS.

Dead rodents received	13
Rodents trapped and killed	321
Rodents recovered after fumigation	19
Total	353
Rodents examined for plague infection	266
Rodents proven plague infected	None.
Poison distributed (pounds)	14
Bodies examined for plague infection	6
Bodies found plague infected	None.

CLASSIFICATION OF RODENTS.

Mus rattus	22
Mus alexandrinus	58
Mus norvegicus	208
Mus musculus	64
Unclassified	1

WATER FRONT.

Vessels inspected and histories recorded	8
Vessels fumigated	2
Sulphur used, pounds	2,100
New rat guards installed	19
Fumigation certificates issued	2
Port sanitary statements issued	46

The usual day and night patrol was maintained to enforce rat guarding and fending.

MISCELLANEOUS WORK.

Rat-proofing notices sent to contractors, new buildings	18
Letters sent in re rat complaints	6
Lectures on sanitary measures	2

RODENTS EXAMINED IN EVERETT.

Mus norvegicus trapped	33
Mus musculus trapped	4
Total	37
Rodents examined for plague infection	37
Rodents proven plague infected	None.

RAT-PROOFING OPERATIONS IN EVERETT.

New buildings inspected	4
New buildings, concrete foundations	3
New buildings elevated 18 inches	1

HAWAII—PLAGUE PREVENTION.

The following reports of plague-prevention work in Hawaii were received from Surg. Trotter, of the United States Public Health Service:

Honolulu.

WEEK ENDED JAN. 15, 1916.

Total rats taken	311
Rats trapped	298
Rats shot from trees	6
Rats killed by sulphur dioxide	7
Examined microscopically	268
Showing plague infection	None.
Classification of rats trapped:	
Mus alexandrinus	144
Mus musculus	73
Mus norvegicus	50
Mus rattus	31
Classification of rats killed by sulphur dioxide:	
Mus alexandrinus	4
Mus rattus	3
Classification of rats shot from trees:	
Mus alexandrinus	4
Mus rattus	2
Average number of traps set daily	984
Cost per rat destroyed.....cents..	24¾
Last case of rat plague, Aiea, 9 miles from Honolulu, Apr. 12, 1910.	
Last case human plague, Honolulu, July 12, 1910.	
Last case rat plague, Kukaiau Camp No. 5, Hawaii, Jan. 10, 1916.	
Last case human plague, Paauhau Plantation, Hawaii, Dec. 16, 1915.	

Hilo.

WEEK ENDED JAN. 8, 1916.

Rats and mongoose taken	2,558
Rats trapped	2,522
Rats found dead	3
Mongoose taken	33
Rats and mongoose examined macroscopically	2,558
Rats and mongoose examined microscopically	2
Rats and mongoose examined bacteriologically	2
Rats and mongoose plague infected	2
Classification of rats trapped and found dead:	
Mus norvegicus	437
Mus alexandrinus	348
Mus rattus	757
Mus musculus	983
Last case of rat plague, Kukaiau Plantation, Camp 5, Jan. 9, 1916.	
Last case of human plague, Paauhau, Kalopa Camp, Dec. 16, 1915.	

PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

UNITED STATES.

CEREBROSPINAL MENINGITIS.

City Reports for Week Ended Jan. 22, 1916.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Bridgeport, Conn.	1		Lowell, Mass.	1	1
Cambridge, Mass.	1		Lynn, Mass.		2
Chicago, Ill.	1		Muscatine, Iowa.	1	
Cumberland, Md.	1	1	New Orleans, La.	1	1
Dayton, Ohio.		1	New York, N. Y.	2	3
Jersey City, N. J.		1	St. Louis, Mo.	1	
Kansas City, Kans.	1	1	Springfield, Ill.		1
Los Angeles, Cal.	1	1			

DIPHTHERIA.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 319.

ERYSIPELAS.

City Reports for Week Ended Jan. 22, 1916.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Beaver Falls, Pa.	1		Newark, N. J.	3	
Boston, Mass.		3	New Castle, Pa.	2	
Brockton, Mass.	3		New York, N. Y.		5
Buffalo, N. Y.	11	1	Philadelphia, Pa.	15	2
Chicago, Ill.	97	11	Pittsburgh, Pa.	12	2
Cincinnati, Ohio.	2		Providence, R. I.		1
Cleveland, Ohio.	9		Reading, Pa.	1	
Dayton, Ohio.		1	Rochester, N. Y.	1	
Erie, Pa.	2		Sacramento, Cal.	1	
Harrisburg, Pa.	1		Saginaw, Mich.	1	
Hartford, Conn.	1		St. Louis, Mo.	15	
Jersey City, N. J.		2	St. Paul, Minn.	1	
Kalamazoo, Mich.	1		San Francisco, Cal.	5	
Kansas City, Mo.	1	1	Scranton, Pa.	1	
Lancaster, Pa.	1		Springfield, Ill.		1
Lawrence, Mass.		2	Stockton, Cal.	2	
Long Branch, N. J.	1		Wilkes-Barre, Pa.	2	
Los Angeles, Cal.	4	1			

LEPROSY.

City Report for Week Ended Jan. 22, 1916.

During the week ended January 22, 1916, one case of leprosy was reported at Los Angeles, Cal.

MALARIA.

City Reports for Week Ended Jan. 22, 1916.

During the week ended January 22, 1916, malaria was reported by cities as follows: Charleston, S. C., 1 death; Chelsea, Mass., 2 cases.

MEASLES.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 319.

PELLAGRA.

City Reports for Week Ended Jan. 22, 1916.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Jacksonville, Fla	1	.....	Richmond, Va	1	.....
Nashville, Tenn	.....	1	Wilmington, N. C	.....	1
New York, N. Y	1	1			

PLAGUE.

Louisiana—New Orleans—Plague Infected Rats Found.

Surg. Creel reported that two plague-infected rats had been found in New Orleans, La. One was trapped January 8, 1916, at 2111 Chippewa Street, and was proven positive for plague-infection February 4, 1916; the other was trapped January 25, 1916, at 4305 Annunciation Street, and was proven positive for plague-infection February 4, 1916.

PNEUMONIA.

City Reports for Week Ended Jan. 22, 1916.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Auburn, N. Y	3	3	Lincoln, Nebr	1	1
Beaver Falls, Pa	1	.....	Los Angeles, Cal	10	5
Binghamton, N. Y	5	8	Manchester, N. H	2	2
Chicago, Ill	317	162	Muscatine, Iowa	1	.....
Cleveland, Ohio	44	46	Newark, N. J	55	30
Coffeyville, Kans	1	.....	New Castle, Pa	4	.....
Columbus, Ohio	5	10	Philadelphia, Pa	110	63
Covington, Ky	2	2	Pittsburgh, Pa	72	53
Dayton, Ohio	3	8	Reading, Pa	10	5
Detroit, Mich	15	23	Rochester, N. Y	8	5
Duluth, Minn	5	5	San Francisco, Cal	20	14
Grand Rapids, Mich	25	7	Schenectady, N. Y	4	4
Harrisburg, Pa	3	6	Spokane, Wash	3	3
Kalamazoo, Mich	4	3	Springfield, Ohio	2	6
Kansas City, Mo	8	9	Steelton, Pa	2	.....
Kokomo, Ind	1	1	Stockton, Cal	1	1
Lancaster, Pa	3	.....	York, Pa	2	.....
Lexington, Ky	1	3			

POLIOMYELITIS (INFANTILE PARALYSIS).

City Reports for Week Ended Jan. 22, 1916.

During the week ended January 22, 1916, poliomyelitis was reported by cities as follows: Los Angeles, Cal., 1 case; Newton, Mass., 1 case; New York, N. Y., 1 case and 1 death.

SCARLET FEVER.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 319.

SMALLPOX.

Maryland—Hagerstown.

Collaborating Epidemiologist Fulton reported by telegraph February 2, 1916, that a new focus of smallpox infection had been reported in Maryland, six cases of the disease having been notified at Hagerstown, Washington County.

Minnesota.

Collaborating Epidemiologist Bracken reported by telegraph that during the week ended February 5, 1916, 3 new foci of smallpox infection were reported in Minnesota, cases of the disease having been notified as follows: Crow Wing County, Timothy Township, 2; Washington County, Oakdale Township, 1; Yellow Medicine County, Hanley Falls, 1.

Texas—Cannel.

Senior Surg. Pierce reported January 29, 1916, that since January 8, 1916, 12 cases of smallpox, with 1 death, have been reported at Cannel, Tex.

Texas—Galveston.

Surgeon Bahrenburg reported by telegraph that two cases of smallpox were reported at Galveston, Tex., one case each on February 3 and 5, 1916, making a total of 6 cases recently reported at that place.

West Virginia—Berkeley County.

Dr. W. T. Henshaw, health officer of Berkeley County, W. Va., reported February 7, 1916, that 5 cases of smallpox had been notified in Berkeley County.

City Reports for Week Ended Jan. 22, 1916.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Brownsville, Tex	4		Lincoln, Nebr	2	
Butte, Mont	3		Little Rock, Ark	2	
Canton, Ohio	1		Los Angeles, Cal	2	
Coffeyville, Kans	4		Lowell, Mass	1	
Danville, Ill	4		New Orleans, La	2	
Davenport, Iowa	21		Omaha, Nebr	3	
Detroit, Mich	8		Rock Island, Ill	2	
Evansville, Ind	12		St. Paul, Minn	3	
Galesburg, Ill	1		San Francisco, Cal	1	
Galveston, Tex	1		Spokane, Wash	14	
Kansas City, Kans	8		Springfield, Ill	15	
Kansas City, Mo	1				

TETANUS.

City Reports for Week Ended Jan. 22, 1916.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md		1	Cleveland, Ohio		1
Boston, Mass		1	New York, N. Y		1
Chicago, Ill	1		St. Louis, Mo	1	

TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 319.

TYPHOID FEVER.

New Jersey—Jersey City—Correction.

The report from Jersey City, N. J., of 9 cases of typhoid fever as having been notified in that city during the week ended January 15, 1916, and noted in the Public Health Reports of February 4, 1916, page 258, was an error. It is stated that the cases should have been reported as chicken pox instead of typhoid fever.

City Reports for Week Ended Jan. 22, 1916.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Atlantic City, N. J	1		Newark, N. J	1	
Baltimore, Md	7	2	New Bedford, Mass	2	
Binghamton, N. Y		1	New Castle, Pa	2	
Birmingham, Ala	1		New Orleans, La	4	1
Boston, Mass	1		New York, N. Y	21	3
Brockton, Mass	2		North Adams, Mass	1	
Buffalo, N. Y	5		Oakland, Cal	1	
Chelsea, Mass		1	Pittsburgh, Pa	6	2
Chicago, Ill	19	4	Plainfield, N. J		1
Chicopee, Mass	1		Portland, Oreg	4	
Cleveland, Ohio	1		Reading, Pa	1	
Columbus, Ohio	3		Rochester, N. Y		1
Covington, Ky	2		St. Louis, Mo	4	1
Danville, Ill	1		St. Paul, Minn	3	
Detroit, Mich	1	1	Salt Lake City, Utah		1
Dubuque, Iowa		1	San Diego, Cal	1	
Duluth, Minn	2	1	San Francisco, Cal	2	
Erie, Pa	1		Scranton, Pa	1	
Evansville, Ind	1		Somerville, Mass	1	
Fall River, Mass		1	Springfield, Mass	1	
Galveston, Tex	3		Superior, Wis		1
Grand Rapids, Mich	5	1	Syracuse, N. Y	1	
Indianapolis, Ind	1	1	Tacoma, Wash	1	
Johnstown, Pa	3		Toledo, Ohio	2	
Kokomo, Ind	1	1	Troy, N. Y	1	
Lawrence, Mass	7		Waltham, Mass		1
Lincoln, Nebr	1		Washington, D. C	4	1
Little Rock, Ark	1		Wheeling, W. Va		1
Los Angeles, Cal	2		Wilkes-Barre, Pa		1
Lowell, Mass	1		York, Pa	3	
Mobile, Ala	1		Zanesville, Ohio	6	
Morristown, N. J		1			

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City Reports for Week Ended Jan. 22, 1916.

City.	Population as of July 1, 1915 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md	584,605	226	25	.....	209	.....	61	2	29	16
Boston, Mass	745,139	330	54	3	71	2	72	.....	48	28
Chicago, Ill	2,447,045	861	101	16	115	6	209	4	233	82
Cleveland, Ohio	656,975	235	32	1	105	1	32	3	30	20
Detroit, Mich	554,717	205	59	5	43	3	31	1	29	17
New York, N. Y	5,468,190	1,760	350	26	312	9	145	1	341	178
Philadelphia, Pa	1,683,664	.....	68	8	190	2	56	1	84	67
Pittsburgh, Pa	571,984	269	30	5	253	8	16	1	29	12
St. Louis, Mo	745,988	283	13	4	15	.....	24	.....	50	21
From 300,000 to 500,000 inhabitants:										
Buffalo, N. Y	461,335	131	29	.....	490	7	17	1	24	8
Cincinnati, Ohio	406,706	181	14	.....	68	2	9	.....	22	23
Jersey City, N. J	300,133	102	17	.....	2	.....	11	1	33	7
Los Angeles, Cal	465,367	150	9	.....	10	.....	5	.....	42	18
Newark, N. J	399,000	163	31	2	139	3	20	.....	56	16
New Orleans, La	366,481	124	38	1	.....	.....	.....	.....	28	14
San Francisco, Cal	* 416,912	166	38	3	4	.....	34	.....	35	18
Washington, D. C	358,679	159	20	.....	11	.....	19	.....	28	11
From 200,000 to 300,000 inhabitants:										
Columbus, Ohio	209,722	81	3	.....	1	.....	5	.....	6	5
Indianapolis, Ind	265,578	95	4	1	1	.....	3	.....	4	3
Kansas City, Mo	289,879	.....	17	1	13	.....	21	2	1	5
Portland, Oreg	272,833	48	4	.....	2	.....	2	.....	5	5
Providence, R. I	250,025	96	24	2	5	.....	17	2	1	6
Rochester, N. Y	250,747	95	2	.....	8	.....	10	.....	4	3
St. Paul, Minn	241,999	65	25	2	16	.....	9	.....	11	4
From 100,000 to 200,000 inhabitants:										
Atlanta, Ga	184,873	60	1	.....	.....	.....	1	.....	.....	13
Birmingham, Ala	174,108	37	2	1	1	.....	2	.....	4	8
Bridgeport, Conn	118,434	54	4	.....	.....	.....	4	.....	3	.....
Cambridge, Mass	111,669	40	11	.....	2	.....	5	.....	9	3
Camden, N. J	104,349	.....	3	.....	2	.....	2	.....	7	.....
Dayton, Ohio	125,509	49	3	.....	4	.....	31	.....	2	5
Fall River, Mass	126,904	37	6	.....	5	.....	4	.....	9	1
Grand Rapids, Mich	125,759	51	.....	.....	5	.....	2	.....	1	1
Hartford, Conn	108,969	68	11	1	43	1	3	.....	3	4
Lowell, Mass	112,124	46	13	1	.....	.....	2	.....	3	4
Lynn, Mass	100,316	34	7	1	93	.....	21	1	4	1
Nashville, Tenn	115,978	40	2	.....	.....	.....	1	.....	6	2
New Bedford, Mass	114,694	33	5	.....	4	.....	3	.....	10	3
New Haven, Conn	147,095	.....	4	1	.....	.....	10	.....	7	2
Oakland, Cal	190,803	.....	5	1	1	.....	3	.....	.....	5
Omaha, Nebr	135,455	.....	9	.....	6	2	82	6	.....	6
Reading, Pa	105,094	.....	3	1	220	1	10	2	17	2
Richmond, Va	154,674	55	6	.....	3	.....	2	.....	7	8
Salt Lake City, Utah	113,567	24	5	.....	1	.....	5	.....	.....	.....
Scranton, Pa	144,081	.....	8	.....	3	.....	4	.....	.....	.....
Spokane, Wash	142,990	.....	1	.....	2	.....	1	.....	1	2
Springfield, Mass	103,216	41	3	.....	.....	.....	7	1	.....	2
Syracuse, N. Y	152,534	37	4	.....	4	.....	2	.....	3	3
Tacoma, Wash	108,094	.....	.....	.....	1	.....	.....	.....	4	.....
Toledo, Ohio	187,840	93	11	1	188	1	9	.....	3	6
Trenton, N. J	109,212	72	10	2	44	4	2	.....	8	3
Worcester, Mass	160,523	85	8	.....	.....	.....	15	1	5	7
From 50,000 to 100,000 inhabitants:										
Akron, Ohio	82,958	42	4	.....	3	.....	16	.....	1	1
Altoona, Pa	57,606	17	4	.....	1	.....	.....	.....	3	1
Atlantic City, N. J	55,806	13	1	.....	2	.....	1	.....	7	.....
Bayonne, N. J	67,582	.....	6	.....	.....	.....	1	.....	2	.....
Berkeley, Cal	54,879	14	2	.....	.....	.....	4	.....	1	1
Binghamton, N. Y	53,082	22	4	2	1	.....	.....	.....	1	2
Brockton, Mass	65,746	16	7	1	2	.....	2	.....	1	2
Canton, Ohio	59,139	21	.....	.....	12	1	21	1	1	1
Charleston, S. C	60,427	26	3	.....	.....	.....	2	.....	.....	1
Chattanooga, Tenn	58,576	.....	.....	.....	.....	.....	.....	.....	1	5
Covington, Ky	56,520	18	2	.....	2	.....	.....	.....	1	6
Duluth, Minn	91,913	24	2	.....	50	.....	2	.....	.....	4

* Population Apr. 15, 1910; no estimate made.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ended Jan. 22, 1916—Continued.

City.	Population as of July 1, 1915 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 50,000 to 100,000 inhabitants—Continued.										
Erie, Pa.	73,798		2		3		3		8	
Evansville, Ind.	72,125	19	5	1	1				4	2
Fort Worth, Tex.	99,528	35	1				3			2
Harrisburg, Pa.	70,754	31	2				1		6	9
Hoboken, N. J.	76,104	28	13	1	16		4		15	6
Jacksonville, Fla.	73,137	19		1					4	3
Johnstown, Pa.	66,585	27	5	1	89		1		4	2
Kansas City, Kans.	96,854		4				4		3	1
Lancaster, Pa.	50,269		2		1		1		1	
Lawrence, Mass.	98,197	42	8		28	1	2		8	3
Little Rock, Ark.	55,158	30	2		1		1			
Malden, Mass.	50,067	19							2	2
Manchester, N. H.	76,959	27			7		5		2	2
Mobile, Ala.	56,536	25	1						2	4
New Britain, Conn.	52,203				2		3		1	4
Passaic, N. J.	69,010	22	4		31		2		1	2
Pawtucket, R. I.	58,156	25	6		17	1	4			
Rockford, Ill.	53,761	12	1		48		5			1
Sacramento, Cal.	64,806	24							2	3
Saginaw, Mich.	54,815	19	2		1		5			
San Diego, Cal.	51,115	18	8		17		3		1	2
Schenectady, N. Y.	95,265	26	3		2		3		4	1
Somerville, Mass.	85,460	24	3	3	1		3		1	
South Bend, Ind.	67,030	19	4				5		2	3
Springfield, Ill.	59,468		11	1	3		3			2
Springfield, Ohio.	50,804	22	1		2		5		1	3
Troy, N. Y.	77,738	28	1				5			3
Wilkes-Barre, Pa.	75,218	27	1		3		5		8	2
York, Pa.	50,543		2		93				1	
From 25,000 to 50,000 inhabitants:										
Alameda, Cal.	27,031	4					1		1	
Auburn, N. Y.	36,947	8	3		1				2	
Brookline, Mass.	31,934	5	4				5		1	
Butler, Pa.	26,587	7	1		1					1
Butte, Mont.	42,918	25			1		1		2	6
Chelsea, Mass.	*32,452	18	2		22		3		2	
Chicopee, Mass.	28,688	11	1				1		2	2
Cumberland, Md.	25,564	10	1		1				7	1
Danville, Ill.	31,554	14	1		2		2			
Davenport, Iowa.	47,127						5			
Dubuque, Iowa.	39,650									1
East Orange, N. J.	41,155	10	2		13		3		1	2
Elgin, Ill.	27,844	9	1							1
Everett, Mass.	38,307	11	3		1		3	1	2	
Everett, Wash.	33,767	7							1	
Fitchburg, Mass.	41,144	6	1	1	1		2		1	
Galveston, Tex.	41,076	21	1				5			1
Haverhill, Mass.	47,774	12	9	2			1		3	1
Kalamazoo, Mich.	47,364	18							1	3
Kenosha, Wis.	30,319		1		3		1			
Kingston, N. Y.	26,632	12	1		3		4		1	
La Crosse, Wis.	31,522	16	1		2		1			
Lexington, Ky.	39,703	15	2		1		2			
Lincoln, Nebr.	46,028	16	4	1	4		3			
Lorain, Ohio.	35,662		1				2			
Lynchburg, Va.	32,385	16							3	3
Madison, Wis.	30,084				21					
Medford, Mass.	25,737	10	1		1		3			
Montclair, N. J.	25,550	6			2		1		1	
Nashua, N. H.	27,114						1			
New Castle, Pa.	40,351				1		2		1	
Newport, R. I.	29,631	6	2	2						
Newton, Mass.	43,085		2							1
Niagara Falls, N. Y.	36,240	10	2		14				1	
Norristown, Pa.	30,833	9	2		1					1
Ogden, Utah.	30,466	4	1							
Orange, N. J.	32,524	18	1				3		3	1
Pasadena, Cal.	43,859	11							5	1
Perth Amboy, N. J.	39,725	10					3		2	
Pittsfield, Mass.	37,580	12			1		1			1

* Population Apr. 15, 1910; no estimate made.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Contd.

City Reports for Week Ended Jan. 22, 1916—Continued.

City.	Population as of July 1, 1915 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 25,000 to 100,000 inhabitants—Continued.										
Portsmouth, Va.	38,610	11	1	.....	.....	.....	.....	.....	.....	1
Racine, Wis.	45,507	15	.....	.....	5	.....	2	.....	1	1
Roanoke, Va.	41,929	15	7	.....	1	.....	1	.....	.....	.....
Rock Island, Ill.	27,961	14	.....	.....	.....	.....	2	1	.....	.....
Steubenville, Ohio.	26,631	10	.....	.....	.....	.....	.....	.....	.....	.....
Stockton, Cal.	34,508	11	1	.....	.....	.....	1	.....	2	2
Superior, Wis.	45,285	12	9	1	.....	.....	4	.....	.....	2
Taunton, Mass.	35,957	20	1	.....	2	.....	1	.....	.....	2
Waltham, Mass.	30,129	13	.....	.....	.....	.....	5	.....	.....	.....
West Hoboken, N. J.	41,893	5	3	.....	1	.....	5	.....	1	.....
Wheeling, W. Va.	43,097	23	.....	.....	28	1	4	.....	.....	1
Williamsport, Pa.	33,495	14	3	.....	.....	.....	1	.....	.....	.....
From 10,000 to 25,000 inhabitants:										
Ann Arbor, Mich.	14,979	5	1	.....	1	.....	.....	.....	.....	.....
Beaver Falls, Pa.	13,316	.....	.....	.....	15	.....	.....	.....	.....	.....
Biddeford, Me.	17,570	4	.....	.....	.....	.....	.....	.....	.....	1
Braddock, Pa.	21,310	.....	1	.....	3	.....	.....	.....	.....	.....
Cairo, Ill.	15,503	5	.....	.....	.....	.....	.....	.....	.....	.....
Clinton, Mass.	*13,075	3	.....	.....	1	.....	.....	.....	1	.....
Coffeyville, Kans.	16,765	.....	1	.....	.....	.....	.....	.....	1	.....
Concord, N. H.	22,480	12	1	.....	1	.....	3	.....	.....	1
Galesburg, Ill.	23,923	8	.....	.....	1	.....	.....	.....	.....	2
Harrison, N. J.	16,555	.....	.....	.....	3	.....	.....	.....	1	.....
Kearny, N. J.	22,753	10	2	.....	2	.....	1	.....	.....	.....
Kokomo, Ind.	20,312	10	2	.....	.....	.....	1	.....	.....	.....
Long Branch, N. J.	15,057	4	.....	.....	.....	.....	.....	.....	.....	.....
Melrose, Mass.	17,166	5	.....	.....	.....	.....	.....	.....	.....	.....
Morristown, N. J.	13,158	.....	1	.....	1	.....	1	.....	.....	.....
Muscatine, Iowa.	17,287	11	.....	.....	.....	.....	.....	.....	.....	.....
Nanticoke, Pa.	22,441	5	2	.....	.....	.....	.....	.....	.....	.....
Newburyport, Mass.	15,195	4	.....	.....	.....	.....	.....	.....	.....	1
New London, Conn.	20,771	11	6	1	1	.....	.....	.....	.....	.....
North Adams, Mass.	*22,019	3	.....	.....	.....	.....	3	.....	.....	.....
Northampton, Mass.	19,846	13	.....	.....	1	.....	5	1	1	.....
Plainfield, N. J.	23,280	9	1	.....	53	.....	5	.....	1	.....
Rutland, Vt.	14,624	6	.....	.....	.....	.....	.....	.....	.....	.....
Saratoga Springs, N. Y.	12,842	.....	.....	.....	5	.....	.....	.....	.....	.....
Steelton, Pa.	15,337	2	.....	.....	.....	.....	.....	.....	4	.....
Wilkinsburg, Pa.	22,361	11	2	.....	27	.....	.....	.....	2	.....
Woburn, Mass.	15,862	6	.....	1	.....	.....	.....	.....	.....	.....

* Population Apr. 15, 1910; no estimate made.

FOREIGN.

CHINA.

Examination of Rats—Shanghai.

During the week ended December 25, 1915, 193 rats were examined at Shanghai. No plague infection was found.

Plague-Infected Rat Found—Hongkong.

During the three weeks ended December 18, 1915, out of 6,541 rats examined at Hongkong, one infected rat was found during the week ended December 4, 1915.

INDIA.

Cholera—Calcutta.

Cholera was reported present in epidemic form at Calcutta during the week ended December 11, 1915. Cases were notified in all parts of the city. One fatal case was notified in the port, but no infection occurred in connection with the shipping.

ZANZIBAR.

Examination of Rats—Zanzibar.

During the month of November, 1915, 4,301 rats were examined at Zanzibar. No plague infection was found.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.

Reports Received During Week Ended Feb. 11, 1916. [1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary				Nov. 7-29, 1915: Cases, 196; deaths, 73.
Austria	Nov. 21-27	6	1	
India:				
Bassein	Nov. 28-Dec. 4		10	
Calcutta	Dec. 5-11		33	
Madras Presidency	Nov. 20-26		3	
Prome	Nov. 28-Dec. 4		32	
Rangoon	Dec. 4-11	17	10	
Toungoo	Nov. 28-Dec. 4		4	
Java				Nov. 12-Dec. 6, 1915: Cases, 17; deaths, 10.
Batavia	Nov. 23-29	6	3	
Brebes	Nov. 12-25	3	3	

[1] From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received During Week Ended Feb. 11, 1916—Continued.

PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Brazil:				
Bahia	Dec. 26–Jan. 1	1	1	
Ceylon:				
Colombo	Nov. 28–Dec. 11	8	8	
Egypt:				
Alexandria	Dec. 25–31	1		
Port Said	Nov. 5–11	1		
India				Dec. 5–11, 1915: Cases, 5,647; deaths, 4,444.
Bombay	Dec. 12–18	5	6	
Madras Presidency	do	289	190	
Mandalay	Nov. 28–Dec. 4		40	
Rangoon	Dec. 5–11	6	5	
Indo-China:				
Saigon	Nov. 29–Dec. 5	1	1	
Java				Nov. 5–18, 1915: Cases, 342; deaths, 326.
Kediri Residency	Nov. 5–18	133	128	
Pasoeroean Residency	do	8	8	
Surabaya Residency	do	4	4	
Surakarta Residency	do	197	186	

SMALLPOX.

Australia:				
New South Wales				Dec. 17–30, 1915: Cases, 14.
Cundletown	Dec. 24–30	3		
Newcastle district	Dec. 17–30	8		
Sydney	Dec. 17–23	3		
Austria-Hungary:				
Austria—				
Vienna	Dec. 10–Jan. 1	24	3	
Hungary—				
Budapest	Dec. 12–31	168		In addition, 3 among troops.
Do	Jan. 1–8	1		5 among troops.
Brazil:				
Rio de Janeiro	Dec. 19–Jan. 1	43	6	
Canada:				
Ontario—				
Fort William and Port Arthur	Jan. 16–22	2		
Canary Islands:				
Grand Canary—				
Arucas	Dec. 5–18			Present.
Germany				Dec. 19–25, 1915: Cases, 3.
Bavaria—				
Munich	Dec. 19–25	1		
Oppeln, Government district	Dec. 19–25	2		In institution.[1]
India:				
Bombay	Dec. 12–18	13	9	
Madras	Dec. 12–18	6	1	
Madras Presidency	Nov. 20–26		7	
Rangoon	Dec. 4–11	2	1	
Java				Nov. 12–Dec. 6, 1915: Cases, 155; deaths, 33.
Batavia	Nov. 30–Dec. 6	11	2	
Samarang	Nov. 12–25	2		
Mexico:				
Aguascalientes	Jan. 10–23		16	
Guadalajara	Jan. 16–22	12	2	
Tampico	Jan. 11–20		29	
Do	Jan. 14			Epidemic. Estimated number cases, over 100.
Vera Cruz	Jan. 10–23	27	31	
Russia:				
Petrograd	Dec. 5–11	24	8	
Siam:				
Bangkok	Nov. 28–Dec. 4		1	
Spain:				
Valencia	Dec. 19–Jan. 1	33	6	
Straits Settlements:				
Singapore	Nov. 28–Dec. 4	1		
Turkey in Asia:				
Beirut	Oct. 31–Nov. 20	15	6	

[1] Public Health Reports, Feb. 4, 1916, p. 264.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received During Week Ended Feb. 11, 1916—Continued.

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Hungary—				
Budapest	Dec. 12-31	3	1	
Do	Jan. 1-8	3		
Egypt:				
Alexandria	Dec. 25-31	4	1	
Cairo	Oct. 29-Nov. 11	12	6	
Germany:				
Bremen	Nov. 28-Dec. 4	1	1	
Erfurt	Dec. 19-25		1	
Hanover	do		1	
Königsberg, Govt. district	Dec. 26-Jan. 8	3		
Lübeck	Dec. 25-31		1	
Java				Nov. 12-Dec. 6, 1915: Cases, 30; deaths, 7.
Batavia	Nov. 23-Dec. 6	8	1	
Samarang	Nov. 19-25	4	1	
Mexico:				
Aguascalientes	Jan. 10-16		5	
Monterey	Jan. 3-9	1		
Tampico	Jan. 11-20		1	
Russia:				
Petrograd	Dec. 5-11	5	1	
Vladivostok	Oct. 29-Nov. 4	7		
Sweden:				
Stockholm	Dec. 26-Jan. 1	1		
Switzerland:				
Zurich	do	1		
Turkey in Asia:				
Adana	Nov. 28-Dec. 4			Present.
Mersina	do	1		
Tarsus	Nov. 29-Dec. 4			Do.

Reports Received from Jan. 1 to Feb. 4, 1916.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary				Total, Oct. 25-Nov. 29, 1915: Cases, 303; deaths, 109.
Austria	Nov. 7-20	115	43	
Croatia-Slavonia	Oct. 18-Nov. 20	174	54	
Hungary	Oct. 18-Nov. 22	24	19	
Borneo:				
Putatan	Oct. 17-23	2		
India:				
Calcutta	Oct. 31-Nov. 27		72	
Henzada	Oct. 7-Nov. 27		3	
Madras	Nov. 7-Dec. 4	5		
Madras Presidency	Nov. 6-19		9	
Mandalay	Oct. 24-Nov. 27		36	
Mergui	Oct. 23-Nov. 20		8	
Myingyan	Oct. 19-Nov. 6		10	
Pakkoku	Oct. 10-Nov. 6		45	
Prome	Nov. 14-27		47	
Rangoon	Oct. 31-Dec. 4	46	41	
Toungoo	Oct. 7-Nov. 27		42	
Indo-China:				
Saigon	Oct. 25-Nov. 28	4	3	
Java				Oct. 15-Nov. 15: Cases, 60; deaths, 48.
Batavia	Oct. 26-Nov. 15	45	31	
Brebes	Oct. 15-28	6	6	
Persia:				
Enzeli	Nov. 6-12		10	Nov. 22, 1915: Still present.
Fssaleme	Nov. 28		7	
Gazian	Nov. 6-12		4	
Karkhan-Roud	Nov. 28		38	And in vicinity.
Kazvin	Nov. 27		10	
Resht	Nov. 24			And vicinity: Present.
Russia:				
Moscow	Nov. 14-27	4	1	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Feb. 4, 1916—Continued.

PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Brazil:				
Bahia	Nov. 21–Dec. 25	11	7	
Ceylon:				
Colombo	Oct. 24–Nov. 27	11	11	
China:				
Hongkong	Nov. 7–27	3	3	
Ecuador:				
Guayaquil	Nov. 1–30	1	1	
Egypt:				
Alexandria	Dec. 23	1		
Assiout, province	Dec. 17–20	2	2	
Garbieh, province	Dec. 6–28	6	4	
Gizeh, province	Dec. 27	1	1	
Minieh, province	Nov. 27–Dec. 29	10	9	
Port Said	Aug. 13–26	2	2	
Greece:				
Athens	Dec. 8–20		1	
Syra Island	Jan. 16	16	10	
India				Oct. 31–Dec. 4, 1915: Cases, 23,511; deaths, 16,773.
Bombay	Nov. 9–Dec. 11	31	29	
Calcutta	Nov. 21–27		1	
Karachi	Nov. 7–20	2	2	
Madras Presidency	Oct. 16–Nov. 5		118	Madras Presidency, Aug. 1, 1898, to June 30, 1915: Cases, 141,356; deaths, 109,095.
Do	Nov. 12–Dec. 11	769	564	
Mandalay	Oct. 24–Nov. 27		58	
Rangoon	Oct. 1–Dec. 4	35	35	
Indo-China:				
Saigon	Oct. 25–Nov. 13	7	4	
Java				Oct. 22–Nov. 4, 1915: Cases, 293; deaths, 277.
Kediri residency	Oct. 22–Nov. 4	137	129	
Madioen residency	do	1	1	
Pasoeroean residency	do	6	8	
Surabaya residency	do	2	2	
Surabaya	Nov. 5–11	2	2	
Surakarta residency	Oct. 22–Nov. 4	147	137	
Mauritius	Oct. 1–Nov. 4	8		
Russia:				
Siberia—				
Transbaikal Province	October, 1914	16	13	
Straits Settlements:				
Singapore	Oct. 31–Nov. 27	4	2	
Siam:				
Bangkok	Nov. 14–20		1	
Union of South Africa:				
Orange Free State	Jan. 28	11		

SMALLPOX.

Australia:				
New South Wales				Total, Dec. 10–16, 1915: Cases, 25.
Bega district	Dec. 10–16	1		
Gloucester district	do	1		
Newcastle district	Nov. 19–Dec. 16	53		
Sydney	Dec. 3–16	6		
Rooty Hill district	Dec. 10–16	1		
Austria-Hungary:				
Hungary—				
Budapest	Nov. 21–Dec. 11	205		
Brazil:				
Rio de Janeiro	Nov. 14–Dec. 18	104	25	
Canada:				
Ontario—				
Fort William and Port Arthur	Dec. 19–25	1		
Quebec—				
Montreal	do	1		
Do	Jan. 16–22	2		
Canary Islands:				
Grand Canary	Nov. 23			Epidemic.
Ceylon:				
Colombo	Oct. 24–Nov. 13	6	2	
China:				
Foochow	Nov. 21–27			Present.
Tientsin	do		2	
Nanking	Nov. 7–Dec. 18			Present.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Feb. 4, 1916—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Alexandria	Dec. 21-27	3		
Cairo	Sept. 3-Oct. 28	5		
France:				
Paris	Dec. 5-11	1		
Germany:				
Breslau	Dec. 12-18	1	1	
Düsseldorf	Dec. 5-11	1		
Oppeln, Govt. district	Nov. 21-Dec. 18	12		Of these 6 in one institution.
Saxony	do	1		
Guatemala:				
Guatemala City	Jan. 9-15			Present.
India:				
Bombay	Nov. 7-Dec. 11	33	16	
Calcutta	Nov. 20		2	
Madras	Nov. 7-Dec. 11	24	12	
Rangoon	Oct. 31-Dec. 4	12	6	
Italy:				
Turin	Nov. 22-Dec. 5	6		
Java				Oct. 15-Nov. 15: Cases, 267; deaths, 54.
Batavia	Nov. 1-15	14	8	
Manchuria:				
Harbin	Nov. 15-28	5		
Mexico:				
Aguascalientes	Dec. 13-Jan. 2	11	7	
Frontera	Nov. 21-Dec. 25	86	24	
Guadalajara	Dec. 5-25	21	7	
Do	Jan. 2-8	4	1	
Hermosillo	Dec. 12-Jan. 16	62	12	
Monterey	Dec. 13-Jan. 9	12	9	
Piedras Negras	Jan. 10-16	2	2	
Progreso	Dec. 5-18	2		
Salina Cruz	Jan. 1-15	1	1	
Tampico	Dec. 7-Jan. 10		33	
Vera Cruz	Dec. 13-Jan. 9	54	41	
Portugal:				
Lisbon	Dec. 5-26	4		
Russia:				
Petrograd	Oct. 24-Nov. 13	57	13	
Riga	Nov. 14-20	1		Aug. 1-31, 1915: Cases, 10; deaths, 1.
Spain:				
Madrid	Nov. 1-30		22	
Valencia	Nov. 21-Dec. 18	108	2	
Switzerland:				
Basel	Nov. 29-Dec. 4	7		
Turkey in Asia:				
Beirut	Oct. 10-30	23	12	
Union of South Africa:				
Johannesburg	Oct. 17-23	2		
Uruguay:				
Montevideo	Oct. 1-31	1		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Jan. 1 to Feb. 4, 1916—Continued.

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Antung	Nov. 22-Dec. 5	2		
Egypt:				
Alexandria	Nov. 12-18	1	1	
Cairo	Aug. 13-Oct. 21	34	23	
Germany				Dec. 5-18, 1915: Cases, 13.
Berlin	Nov. 21-Dec. 11		5	
Dortmund	Dec. 12-18	1	1	
Hanover	Nov. 21-Dec. 11	2	1	
Königsberg	Nov. 28-Dec. 18	9	3	
Lübeck	Nov. 7-20	3	1	
Saxe-Coburg-Gotha	Dec. 5-18	3		
Stettin	Dec. 5-25		6	
Great Britain:				
Dundee	Dec. 12-18	3		
Liverpool	Dec. 5-18	3	2	
Greece:				
Saloniki	Oct. 24-Nov. 27		170	Dec. 10: Present among troops.
Yehije-Vardar	Dec. 10			Present among troops.
Italy:				
Florence	Oct. 1-30	20	2	
Palermo	Dec. 13-19	3		
Java				Oct. 15-Nov. 15, 1915: Cases, 38; deaths, 12.
Batavia	Oct. 26-Nov. 15	8	2	
Samarang	Oct. 22-28	2		
Mexico:				
Aguascalientes	Dec. 13-Jan. 2		12	Estimated number cases, 1,500.
Guadalajara	Dec. 25-31	6	2	
Mexico City	Dec. 23			Prevalent.
Do	Jan. 12		1	
Queretaro	Dec. 16			Prevalent. Estimated number cases, 500.
Salina Cruz	Dec. 16-21	1		
Tampico	Dec. 1-31		1	
Russia:				
Moscow	Dec. 7-27	28	5	
Petrograd	Oct. 24-Nov. 27	15	3	
Riga	Nov. 14-20	12		
Vladivostok	Oct. 8-28	11	4	
Spain:				
Madrid	Nov. 1-30		1	
Turkey in Asia:				
Aleppo	Oct. 26-Nov. 1			Estimated deaths, 200 daily.
Mersina	Nov. 21-27	3		

YELLOW FEVER.

Ecuador:				
Guayaquil	Nov. 1-30	1	1	

SANITARY LEGISLATION.

COURT DECISIONS.

WISCONSIN SUPREME COURT.

Industrial Diseases—Workmen's Compensation Laws—Death Resulting from Typhoid Fever Held to be Within the Wisconsin Workmen's Compensation Law.

VENNEN *v.* NEW DELLS LUMBER CO., 154 N. W. Rep., 640. (Oct. 26, 1915.)

Death of an employee from typhoid fever caused by drinking impure water furnished by his employer was "proximately caused by accident while he was 'performing services growing out of and incidental to his employment'" within the meaning of the Wisconsin workmen's compensation law.

This is an action to recover damages alleged to have been sustained by the plaintiff as administratrix of her husband's estate and as his widow on account of her husband's death.

The defendant is a corporation organized under the laws of the State of Wisconsin. The deceased, Gerhard Vennen, was employed by the defendant during the spring and early summer of the year 1914. The defendant was engaged in operating a manufacturing lumber establishment located on the Chippewa River, in the city of Eau Claire, Wis. In connection with its establishment the defendant maintained an outhouse and two toilets for its employees working there, and a toilet in its principal office building. All of the sewage from these toilets was discharged into the river near defendant's establishment. The pleadings allege that the defendant, in supplying water for its boilers, not only secured water from the city waterworks, but also used water from the river, which was obtained by means of intake pipes; that the defendant was negligent in placing its intake pipes in such location that they carried into the boilers water that was contaminated by the sewage; and that this water, through defendant's negligence, became mixed with the water from the city waterworks, because of improper connecting pipes. It is further alleged that the defendant negligently permitted and caused the employees to drink of this polluted water, and thereby caused the deceased, Gerhard Vennen, to become sick with typhoid fever, which resulted in his death on July 25, 1914.

The defendant alleges and claims that the court had no jurisdiction of the matter, because the defendant at the time here in question had more than four employees engaged in a common employment, and that it had filed notice of election to accept the provisions of the workmen's compensation act, and that the plaintiff's intestate had never filed any election not to accept the provisions thereof. Plaintiff demurred to this defense on the ground that it did not state facts sufficient to constitute a defense.

The circuit court ordered that the demurrer be overruled. From such order this appeal is taken.

SIEBECKER, J. (after stating the facts as above): This appeal presents an important question as to the liability and nonliability of employers under the provisions of the workmen's compensation act. The ruling upon the demurrer to the answer assumes that the facts stated in the pleading exist as alleged, regardless of evidence in respect thereto. Section 2394–3, subd. 3, provides that, where the right to compensation

under the provisions of the workmen's compensation act exist for personal injury or death, it shall be the exclusive remedy against the employer for such injury or death. (City of Milwaukee *v.* Althoff, 156 Wis., 68, 145 N. W., 238; Smale *v.* Wrought Washer Mfg. Co., 160 Wis., 331, 151 N. W., 803.)

By section 2394-3 it is enacted:

> Liability for the compensation hereinafter provided for, in lieu of any other liability whatsoever, shall exist against an employer for any personal injury accidentally sustained by his employee, and for his death, in those cases where the following conditions of compensation concur: * * *
>
> (2) Where * * * the employee is performing service growing out of and incidental to his employment. * * *
>
> (3) Where the injury is proximately caused by accident, and is not intentionally self-inflicted.

The facts alleged show that the parties to the action were subject to the compensation act. The inquiry then is: Was Vennen's death proximately caused by accident while he was "performing services growing out of and incidental to his employment?" The inference from the alleged facts is reasonably clear that Vennen at the time of the alleged injury resulting in his death was "performing services growing out of and incidental to his employment."

The contention that an injury resulting from carelessness or negligence is not one that can be said to have been accidentally sustained in the sense of the compensation act is not well founded. As declared in N. W. Iron Co. *v.* Industrial Commission (154 Wis., 97, 142 N. W., 271, Ann. Cas. 1915B, 877):

> In giving construction to such statutes words are to be taken and construed in the sense in which they are understood in common language, taking into consideration the text and subject matter relative to which they are employed.

The words should be given, as intended by the lawmakers, their popular meaning. (Sadowski *v.* Thomas Furnace Co., 157 Wis., 443, 146 N. W., 770.)

> A very large proportion of those events which are universally called accidents happen through some carelessness of the party injured which contributes to produce them. * * * Yet such injuries, having been unexpected, and not caused intentionally or by design, are always called accidents, and properly so.

Accidents without negligence are rare as compared to accidents resulting from negligence. Opinion of Paine, J., in Schneider *v.* Provident Life Insurance Co. (24 Wis., 28, 1 Am. Rep., 157). The intention of the legislature to include accidental injuries resulting from negligence within the language of the compensation act is so manifest that there is no room to indulge in construction of the language employed. In the popular sense the words as used in the compensation act referring to a personal injury accidentally sustained by an employee while performing services growing out of and incidental to his employment include all accidental injuries, whether happening through negligence or otherwise, except those intentionally self-inflicted.

The inquiry is: Was the disease from which it is alleged Vennen died proximately caused by accident? Do the facts and circumstances alleged in the case set forth the conditions to entitle an employee to compensation "for any personal injury accidentally sustained," which was "proximately caused by accident" while "performing services growing out of and incidental to his employment"? We have already noticed that the alleged injury was, under the facts stated in the pleadings, received by deceased while in plaintiff's employ and while he was "performing services growing out of and incidental to his employment." Whether or not the alleged accidental injury caused Vennen's death is sufficiently pleaded, and remains a question for determination from the evidence at the inquest of the case. There remains the important inquiry: Do the allegations state a case showing that Vennen's death is attributable to "accident" in the sense of the compensation act? It is urged that the contracting of typhoid disease under the facts and circumstances stated does not show that his death was due to an accidental occurrence. The term "accidental," as used in compensation laws, denotes something unusual, unexpected, and undesigned. The nature of it implies that there was an external act or occurrence which caused

the personal injury or death of the employee. It contemplates an event not within one's foresight and expectation resulting in a mishap causing injury to the employee. Such an occurrence may be due to purely accidental causes, or it may be due to oversight and negligence.

The fact that deceased became afflicted with typhoid fever while in defendant's service would not in the sense of the statute constitute a charge that he sustained an accidental injury, but the allegations go further, and state that this typhoid affliction is attributable to the undesigned and unexpected occurrence of the presence of bacteria in the drinking water furnished him by the defendant, as an incident to his employment. These facts and circumstances clearly charge that Vennen's sickness was the result of an unintended and unexpected mishap incident to his employment. These allegations fulfill the requirements of the statute that the drinking of the polluted water by the deceased was an accidental occurrence while he was "performing services growing out of and incidental to his employment." It is alleged that the consequences of this alleged accident resulted in afflicting Vennen with typhoid disease, which caused his death. Diseases caused by accident to employees while "performing services growing out of and incidental to his employment" are injuries within the contemplation of the workmen's compensation act. This was recognized in the case of Heileman Brewing Co. *v.* Industrial Commission (152 N. W., 446) and Voelz *v.* Industrial Commission (152 N. W., 830). The English compensation act made employers liable to employees for "personal injury by accident arising out of and in the course of the employment." Under this act it has been held that contraction of a disease may be caused by accident. See the following cases: Bintons, Limited, *v.* Turvey (Law Reports [1905] Appeal Cases, 230): A workman became infected through a bacillus from the wool which he was assorting, resulting in giving him the disease of anthrax, of which he died, and it was held that it was a case of "injury by accident." Alloa Coal Co. *v.* Drylie (1 Scot. L. T. 167; 4 N. C. C. A., 899): Drylie, a workman in a coal pit, through accident was exposed to icy cold water up to his knees and became chilled, which made him sick, resulting in pneumonia, of which he died. Upon the evidence adduced the court found that the pneumonia was caused by the chill, and that death resulted from "injury by accident."

The cases wherein liability has been found distinguish between disease resulting from accidental injury and disease which results from an idiopathic condition of the system, and not attributable to some accidental agency growing out of the employment. The latter class of diseases are held not to be within the contemplation of the act. We are of the opinion that the decision of the trial court holding that the facts pleaded show that Vennen's death was caused by accident while performing service growing out of and incidental to his employment is correct, and that the demurrer was properly overruled.

The order appealed from is affirmed.

BARNES, J. (dissenting): By section 2394-3 liability exists under the compensation act where employer and employee are under it: (1) For "any personal injury accidentally sustained" by the employee while "performing service growing out of and incidental to his employment, * * * where the injury is proximately caused by accident and is not intentionally self-inflicted;" and (2) for death where the employee is performing such service and where the injury causing death is "proximately caused by accident," and not intentionally self-inflicted. To justify recovery under this statute, where death does not ensue, there must be a personal injury actually sustained, which injury is proximately caused by accident. Where recovery is sought for death, the statute does not in express terms say that a personal injury must actually be sustained, but only that there must be an injury "caused by accident."

I think it is very improbable that the legislature intended to give compensation where death resulted from an accident and deny it in case of mere disability, and that by fair implication it was intended to allow compensation for death only where it re-

sulted from "personal injury;" in other words, if recovery can be had in case of death from typhoid fever, then, indemnity should be allowed for disability and medical attendance in case of recovery. If this be so, then two things must occur as a condition precedent to recovery. There must be a personal injury; and it must be caused by accident. If the taking of typhoid germs into the system is a "personal injury" and an "accident," within the meaning of the law, then the decision is right. If there can be a recovery in the case of typhoid fever, then the same result would follow for tuberculosis, pneumonia, smallpox, anthrax, ordinary colds, and other diseases, where the sick employee was able to trace the cause of his sickness to some unusual conditions in the surroundings in which he worked. If I understand the opinion correctly, most, if not all, diseases may be accidental, and recovery may be had on account of the same, except those of an "idiopathic" character. "Idiopathy" is defined as "a morbid state or condition not preceded and occasioned by any other disease; an individual or personal state of feeling; a mental condition peculiar to oneself." "Idiopathy" is defined as "of or pertaining to a morbid state; not secondary or arising from any other disease; as an idiopathic affection." (Cent. Dict.)

The peculiar concern of this court is to get at the legislative intent. When the court ascertains that intent, it has not only performed its full duty, but has exhausted its legitimate powers. It has no right to curtail or extend the provisions of any statute. The compensation act as now construed by the court will, I think, add materially to the liabilities popularly supposed to exist under the act, if it does not double them. If the legislature so intended, well and good. I can not bring myself to believe that it did so intend.

It is a matter of common knowledge that cases of sickness and disease are much more numerous than cases of what are commonly known as accidents. The compensation act was passed after an exhaustive study of the subject of industrial insurance by a committee of the legislature which covered a period of two years. There were two classes of acts in operation in other jurisdictions—one covering diseases and accidents; the other not, in terms at least, covering disease. If it had been the purpose of the legislature to include the large class of cases that would result from sickness, it is fair to presume that it would have done so in express and unmistakable terms, and not by the use of language that is at least popularly understood not to include them. In the numerous discussions on the proposed law before the legislature, which are fresh in mind, it does not appear to have occurred to anyone that diseases were included or intended to be included. In the four years that have elapsed since the original act was passed thousands of cases of sickness other than those of an "idiopathic" character must have arisen where there was ground for claiming that the sickness was contracted in the course of employment, and yet this is the first case where the claim was made that the compensation act applies to sickness. Even the representative of the deceased is not making such a claim here. On the contrary, she is resisting it, and insisting that she is free to pursue her common-law remedy.

Now, the words "personal injury" are words commonly and ordinarily used to designate injury caused by external violence, and they are not used to indicate disease. Neither do we speak of sickness as an "accident" or an "injury." When we hear that some one has suffered an accident, we at once conclude that he has suffered some more or less violent external bodily injury. It is in this sense, I think, that the words "personal injury" and "injury * * * caused by accident" are used in the statute. When our neighbor has typhoid fever, we do not think of classifying his ailment as an "accident," an "injury," or a "personal injury." It is only by an extremely far-fetched and, I believe, illogical construction of the words referred to that they can be held to include disease not resulting from some external violence.

It is well-nigh a demonstrable certainty that the legislature never intended to provide compensation for sickness not resulting from external bodily violence. Wisconsin was one of the pioneers in this kind of legislation. It was known that it would

entail large burdens on our manufacturers, who would thus be placed at a disadvantage in competing with employers in other States where no such law was then in existence. The law was an optional one, and is so yet. As was expected, there was a great deal of hesitancy on the part of employers about coming under it. Had it been supposed that it provided compensation for disease or sickness, it is probable that the purpose of the law would have been practically nullified. The effect of the decision in this case is, of course, conjectural, but it is not without the range of possibilities that some at least of those who are now under the act will exercise their election not to remain under it. It is now a generally accepted truism that many diseases attack those who are physically weak and run-down rather than those who are strong and able to throw off unwelcome disease germs. The weak must work as well as the strong, or else be taken care of by the public, and, should they be discriminated against in the matter of securing employment, much harm would follow. The question whether we should or should not have insurance against sickness is one of legislative policy. The manner of paying such insurance, if decided upon, is also a question of legislative policy within constitutional limits. I do not question the power of the legislature to pass an option law such as we have providing for indemnity against disease. What I do say is that the legislature has not done so, and that the act passed has been stretched by construction so as to add to it in all probability as large a class of claims and liabilities as that actually included in the original act.

The great weight of authority is contrary to the decision in this case. In Fenton *v.* Thorley [1903] (A. C., 443) it is said that the words "by accident" are used to qualify the word "injury," confining it to certain classes of injuries and excluding other classes, as, for instance, injuries by disease or injuries self-inflicted by design. In Broderick *v.* London City Council [1908] (2 K. B., 807, 15 Am. & Eng. Cas., 895) the inhalation of sewer gas by which an employee contracted enteritis was held not to be a personal injury by accident. Paralysis resulting from exposure to contact with lead was held not to be an injury caused by accident. Steel *v.* Cammell L. & Co. [1905] (2 K. B., 232, 2 Am. & Eng. Ann. Cas., 142). An abscess in the hand produced by continuous rubbing of a pick handle held not to be an injury produced by accident. (Marshall *v.* Coal Co., 93 L. T. N. S., 360.) Working with a blistered finger among red lead and oil which produced an inflammation and swelling held not an injury produced by accident. (Walker *v.* Lilleshall Coal Co. [1900], 1 Q. B., 488.) Copper poisoning resulting from contact with dust produced by filing is not an injury produced by accident. (Hichens *v.* Metal Co., 35 N. J. Law J., 327.) Death from anthrax from handling animals that died from this disease held not injury caused by accident. (Sherwood *v.* Johnson, 5 B. W. C. C., 686.)

The Michigan court has held that, since an accident is an unforeseen event occurring without design, the compensation act of that State (which is similar to ours on the point under discussion) does not cover occupational diseases, which are diseases arising from causes incident to certain employments. (Adams *v.* Acme White Lead & Color Works (Mich.), 148 N. W., 485.)

Kindred cases dealing with the subject under consideration have arisen under policies of accident insurance. They hold that disease not resulting from or produced by external violence is not an accident for which recovery can be had under such contracts. (Bacon *v.* Mutual Ass'n, 123 N. Y., 304, 25 N. E., 399; 9 L. R. A. 617; 20 Am. St. Rep. 748. Smith *v.* Travelers' Ins. Co., 219 Mass., 147, 106 N. E., 607; L. R. A. 1915B, 872. Sinclair *v.* M. P. Assur. Co., 107 E. C. L. 478. Dozier *v.* Fidelity, etc., Co. (C. C.) 46 Fed. 446; 13 L. R. A. 114.)

By section 2394–11, Statutes, it is provided that no claim to recover compensation under sections 2394–3 to 2394–31, inclusive, shall be maintained unless within 30 days after the occurrence of the accident which is claimed to have caused the injury or death notice in writing be given to the employer stating the time and place of the injury. This must mean that the legislature had in mind something definite and

tangible, something that could be located as to time and place, where it used the word "accident." I do not see how this statute can be complied with in a typhoid fever case.

The New Jersey court, following what it conceives to be the English rule, holds that:

> Where no specific time or occasion can be fixed upon as the time when an alleged accident happened, there is no "injury by accident" within the meaning of the * * * Compensation Act. (Llondale Bleach, Dye & Paint Works *v.* Riker, 85 N. J. Law, 426, 89 Atl., 929.)

The latest expression of the English courts on the subject to which attention has been called is Eke *v.* Hart-Dyke [1910] (2 K. B., 677). There a laborer died from ptomaine poisoning caused by the inhalation of sewer gas. It was held that this was not an injury caused by accident, one of the concurring judges saying that there could be no recovery for injury by accident where you can not give a date, and adding: "It is hardly a lawyer's question."

The Bintons case cited in the majority opinion is discussed in Eke *v.* Hart-Dyke, where it is referred to as an extreme case, the logic of which could be approved only on the theory that the anthrax germ which was floating in the air and which lodged in the eye of the deceased produced an abrasion which developed infection. In the decision the case is compared with a spark flying from an anvil and injuring the eyesight.

The Scotch case cited in the opinion (Alloa Coal Co. *v.* Drylie) is authority for affirming the decision in the present case, but is much more restricted in its application than is the present decision. The opinion of Lord Dundas, which was concurred in by a majority of the judges, states:

> The present case could never be fairly cited in the future as indicating that the court is willing to hold that a mere ordinary disease (e. g., pneumonia) entitles a workman to compensation. The court must be satisfied * * * that the disease was attributable to some particular event or occurrence of an unusual and unexpected character incident to the employment, which could, in the light of the decisions, be fairly described as an accident.

I think this is the only decided case to which attention has been called which tend to support the decision of the court, while the cases to the contrary are numerous. In the two Wisconsin cases cited, the disease for which recovery was allowed was proximately caused by an injury resulting from external violence.

MARYLAND COURT OF APPEALS.

Nuisance—Gases and Odors from a Factory Causing Illness—Injunction is Proper Remedy.

HENDRICKSON *v.* STANDARD OIL CO., 95 Atl. Rep., 153. (June 24, 1915.)

> The discharge from a factory of large quantities of noxious, foul smelling, and injurious gases and vapors, causing sickness and preventing the reasonable enjoyment of property, entitles a person who is injured thereby to equitable relief by injunction.

URNER, J. The bill of complaint in this case alleges in the first and second paragraphs that the plaintiff is the owner of leasehold estates in five lots of ground in Canton, Baltimore County, improved with buildings of which four have heretofore been occupied as residences, and one has been used both as a saloon and dwelling.

* * * * * * *

The fourth paragraph of the bill avers that the defendant operates a factory near the land of the plaintiff for the manufacture of its products, and that it wrongfully and in utter disregard of the plaintiff's rights causes large quantities of noxious, offensive, and injurious gases and vapors to be emitted from its factory and to spread over and upon the plaintiff's premises, and to permeate and taint the air, so that the plaintiff and her tenants, in the occupation of her houses, become sickened, and the reasonable enjoyment of her property is thereby prevented.

* * * * * * *

The bill concludes with the allegation that the plaintiff is without remedy save through the intervention of a court of equity, and prays that the defendant may be restrained by injunction * * * (f) from so operating its factory as to cause noxious gases or vapors to be emitted therefrom and to interfere with the reasonable use and occupation of the plaintiff's buildings and premises. There was also a prayer for general relief. The bill was accompanied by exhibits showing the sources of the plaintiff's title.

In pursuance of an order of court providing for the issuance of an injunction, as prayed in the bill, unless cause to the contrary were shown by the defendant on or before a designated day, a demurrer to the bill and each of its paragraphs was interposed. After a hearing upon the demurrer it was sustained as to the fourth, fifth, and seventh paragraphs of the bill, and overruled as to the remaining paragraphs. From the order passed by the court below to that effect the plaintiff has taken this appeal.

* * * * * * *

The first question to be considered on the demurrer is whether the injuries to which the plaintiff claims, in the fourth paragraph of the bill, to be subjected, in his personal and property interests, by the discharge of "large quantities of noxious, foul-smelling, and injurious gases and vapors" from the defendant's factory, constitute a ground for equitable relief by injunction. It is charged, as already noted, that these gases and vapors cause the plaintiff and her tenants to become sickened, and prevent the reasonable enjoyment of her property. These averments, if duly proven, are sufficient to invoke the restraining power of a court of equity. It has been definitely ruled that such protective relief will be granted at the suit of one who in a material degree is disturbed in the comfortable and reasonable occupancy and use of his property by offensive and noxious smoke, vapors, or gases emitted from a factory located on the neighboring land. (Adams *v.* Michael, 38 Md., 123, 17 Am. Rep., 516; Chappell *v.* Funk, 57 Md., 465; Dittman *v.* Repp, 50 Md., 516, 33 Am. Rep., 325.) The question in all such cases was said by Judge Alvey, in the case last cited, to be:

> Whether the nuisance complained of will or does produce such a condition of things as, in the judgment of reasonable men, is naturally productive of actual physical discomfort to persons of ordinary sensibilities, and of ordinary tastes and habits, and as, in view of the circumstances of the case, is unreasonable and in derogation of the rights of the complainant.

A similar test is applied in actions at law for such nuisances. (Fertilizer Co. *v.* Spangler, 86 Md., 568, 39 Atl., 270; Susquehanna Fertilizer Co. *v.* Malone, 73 Md., 268, 20 Atl., 900, 9 L. R. A. 737, 25 Am. St. Rep. 595; Euler *v.* Sullivan, 75 Md., 616, 23 Atl., 845, 32 Am. St. Rep., 420; Belt R. Co. *v.* Sattler, 100 Md., 306, 59 Atl., 654; Carroll Springs Co. *v.* Schnepfe, 111 Md., 430, 74 Atl., 828.) In the opinion delivered in Adams *v.* Michael and Fertilizer Co. *v.* Spangler (supra) the statement by Lord Romilly in Crump *v.* Lambert (L. R., 3 Eq. Cases, 409) was quoted to the effect that the law on this subject is "the same whether it be enforced by action at law or by bill in equity," and that there is "no distinction between any of the cases, whether it be smoke, smell, noise, vapors, or water, or any gas or fluid. The owner of one tenement can not cause or permit to pass over or flow into his neighbor's tenement any one or more of these things in such a way as materially to interfere with the ordinary comfort of the occupier of the neighboring tenement, or so as to injure his property."

For the purposes of the demurrer in this case it is admitted that the defendant company is causing noxious gases and vapors to be emitted from its factory, and to spread over the plaintiff's property in such quantity as to injuriously affect the health of its occupants and the reasonable enjoyment of their possession. The injury thus alleged is sufficiently serious and substantial, if proven, to entitle the plaintiff to the relief sought in this proceeding.

A different principle governed the case of N. C. Ry. Co. *v.* Oldenburg & Kelley (122 Md., 236, 89 Atl., 601) where the object of the suit was to procure an injunction restraining the defendant railroad company from allowing smoke and noxious fumes

to be discharged from its roundhouse to the injury of the plaintiffs' property and its occupants. The roundhouse was a necessary feature of a railway system which had been constructed under a franchise from the State, and it was held that as the injuries to the plaintiffs' private property rights resulting from the operations complained of were only consequential, and did not amount to a taking of his property for public use, within the meaning of the constitutional provision on the subject, no ground existed for the granting of an injunction, and the only remedy available was an action at law for damages. This principle does not apply to the facts here alleged.

* * * * * * *

As we are of opinion that the bill is not demurrable as to any of its paragraphs, the order appealed from will be reversed to the extent to which it sustains the demurrer, and the case will be remanded for further proceedings.

Order reversed, in part, with costs to the appellant, and cause remanded.

STATE LAWS AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

ALASKA.

Rabies—Prevention of—Killing of Dogs Under Certain Conditions. (Chap. 37, Act Apr. 28, 1915.)

SECTION 1. It shall be lawful for any person at any time to kill any vicious or mad dog found running at large.

SEC. 2. Any dog which when unprovoked has ever bitten or attacked a human being shall be deemed vicious in contemplation of section 1 of this act.

SEC. 3. Whenever any dog habitually annoys reindeer, sheep, cattle or horses or other domestic animals or domestic fowls or evinces a disposition which renders it likely that it will without provocation bite such animals or fowls, it shall be lawful for any person to kill such dog, when at large: *Provided, however*, That the owner or keeper of such dog, if known, or upon reasonable inquiry may be known, shall be notified and given reasonable opportunity to restrain such dog before it shall become lawful to kill it under the provisions of this section.

Health Officers and Local Boards of Health—Expenses of. (Chap. 48, Act Apr. 28, 1915.)

Section 15 [1] of chapter 42, Alaska Session Laws of 1913, was repealed April 28, 1915. The section repealed reads as follows:

SEC. 15. *Expenses.*—Any necessary expenses incurred by any health officer or local board of health in the enforcement of this act outside of incorporated towns shall be paid, upon approval by the district judge, from funds derived from fines and forfeitures in the Territory of Alaska.

Foodstuffs—Serving of, More than Once Prohibited—Inspection—Condemnation of Unwholesome. (Chap. 36, Act Apr. 28, 1915.)

SECTION 1. That it shall be unlawful for any person in the Territory of Alaska to serve to any other person for pay any article of food or drink or any portion thereof which has theretofore been served to any person; and any person who violates any of the provisions of this section shall be guilty of a misdemeanor and upon conviction shall be punished by imprisonment in jail for not more than six months or by a fine of not more than $100, or by both such fine and imprisonment.

SEC. 2. That in all villages and towns, incorporated or otherwise, in the Territory of Alaska, all restaurants, lunch counters, hotels, bake shops, meat markets, fish markets, and all other places where food is served or sold, shall be inspected by a food inspector, to be appointed by the constituted authorities of such town or village, who shall have the power to condemn all articles of food and drink, whether perpared or otherwise, found by such inspector to be impure, dangerous to health, or otherwise unfit for food purposes; and any person who shall, after such articles shall have been so condemned, sell or serve to any person any of such condemned articles, for food

[1] Reprint No. 264 from the P. H. R., p. 16.

purposes or without disclosing such condemnation, shall be guilty of a misdemeanor and upon conviction shall be punished by imprisonment in jail for not more than six months or by a fine of not more than $100, or by both such fine and imprisonment.

Births, Deaths, and Marriages—Registration of—Fees. (Chap. 44, Act Apr. 28, 1915.)

SECTION 1. That sections 7 and 8,[1] of chapter 35, Alaska Session Laws, 1913, of an act entitled "An act to require the registration of vital statistics in the Territory of Alaska, and for other purposes," approved April 25, 1913, be amended so as to read as follows:

SEC. 7. That it shall be the duty of every person authorized to perform marriages within the Territory of Alaska to make out a marriage certificate in triplicate upon blanks which shall be furnished him by the Territorial registrar of vital statistics upon application therefor. The said certificate shall conform to the present requirements of the law of the Territory of Alaska as to what a marriage certificate shall contain, except that in addition to the present requirements of a marriage certificate said certificate shall state in what commissioner's precinct the marriage was performed and that said certificate will be filed for record and recorded in said precinct within 30 days after said marriage is performed, and the person performing said marriage shall deliver one copy of said marriage certificate to the husband, one copy to the wife, and within 30 days from the date of the marriage shall file the third copy with the United States commissioner of the precinct in which the marriage was performed. And the person solemnizing the marriage shall collect from the contracting parties an amount sufficient to cover the commissioner's fee for recording said marriage certificate, which amount he shall pay to the United States commissioner at the time he files said certificate of marriage. And in case he shall fail or refuse to collect said recording fee as above provided, he shall pay the amount of said recording fee to said United States commissioner out of his own funds. And any person failing or refusing to comply with the provisions of this section, or with any part thereof, shall be deemed guilty of a misdemeanor.

SEC. 8. That it shall be the duty of every United States commissioner within the Territory of Alaska to record every birth certificate, death certificate, and marriage certificate presented to him for record; and said United States commissioner shall receive as compensation for his services in recording each of said certificates the fees prescribed by the Attorney General of the United States for similar services performed by United States commissioners acting as ex officio recorders.

The United States commissioner of each precinct shall on or before the 10th day of each month transmit to the Territorial registrar of vital statistics all original certificates of birth, death, and marriage filed with him for the preceding calendar month; and he shall at the same time submit to the Territorial registrar an account of fees due for recording certificates of birth and death during the preceding calendar month, which account shall be audited by the Territorial registrar, and if approved by him shall be paid from the funds of the Territory.

SEC. 2. That chapter 35 of Alaska Session Laws of 1913 shall hereby be enacted in all particulars except as amended by this act.

Embalmers—Examination and Licensing—Regulations Governing. Burial—Transportation of Dead Bodies. (Chap. 47, Act Apr. 28, 1915.)

SECTION 1. That the secretary of the Territory of Alaska, as ex officio registrar of vital statistics, be and he hereby is authorized and directed to provide rules and regulations for the examination and issuance of licenses to persons qualified to act as

[1] Reprint No. 264 from the P. H. R., p. 20.

embalmers in the Territory of Alaska, and also to issue licenses in the Territory of Alaska to persons duly licensed under the laws of any State of the United States to act as embalmers.

SEC. 2. That the secretary of the Territory of Alaska, as ex officio registrar of vital statistics, shall also provide rules and regulations by which dead bodies may be shipped from the Territory of Alaska, and to issue regular shipping blanks to persons licensed to act as embalmers in the Territory of Alaska.

ARIZONA.

Cold-Storage Eggs—Sale of. (Chap. 23, Act Mar. 9, 1915.)

SECTION 1. Every person, firm, company, or corporation who sells or offers for sale any eggs that have been sold [sic] in cold storage for a longer period than three months shall before so doing, cause to be stamped, marked, or branded upon all sides of each receptacle holding and containing the same in black-face letters 2 inches in length the period of time during which the same have been in cold storage.

SEC. 2. Every person, firm, company, or corporation selling or offering for sale any eggs that have been in cold storage for a longer period than three months shall display in a conspicuous place in his or their salesroom a sign bearing the words "cold-storage eggs sold here" in black-faced letters not less than 6 inches in length upon a white ground.

SEC. 3. For the purposes of this act the words "person, firm, company, or corporation" shall include wholesalers, retailers, jobbers, and every place where eggs that have been in cold storage for a longer period than three months are sold or offered for sale.

SEC. 4. Every person, firm, company, or corporation who shall violate any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished as provided in misdemeanor cases.

CALIFORNIA.

Diphtheria—Carriers. (Reg. Bd. of H., Sept. 4, 1915.)

On September 4, 1915, rule 11 of the regulations[1] of the California State Board of Health for the prevention and control of diphtheria was amended to read as follows:

RULE 11. *Diphtheria carriers.*—Any person who has been free from symptoms of diphtheria for a month or longer and who harbors diphtheria bacilli is a diphtheria carrier and is hereby declared to be a menace to the public health. Any known or suspected diphtheria carrier shall be reported to the local health authority, who shall investigate and report to the State board of health. Pending the receipt of instructions from the State board of health, the local health authority shall isolate or quarantine the carrier if in his judgment the danger to the community necessitates such action. In the event of any known or suspected carrier leaving the jurisdiction of a local health authority, the State board of health shall be notified by the local health authority of the name of the carrier and his destination.

MASSACHUSETTS.

Tuberculosis and Other Communicable Diseases—Infirmary for Care and Treatment of—Construction, Equipment, and Maintenance of, by Barnstable County. (Chap. 153, Act Apr. 10, 1915.)

SECTION 1. The county commissioners of the county of Barnstable are hereby, authorized and directed to construct, equip and maintain an adequate infirmary for the care and treatment of persons ill with tuberculosis and other contagious diseases. The infirmary shall be owned by the county. For the purpose of providing for its

[1] Reprint No. 279 from the P. H. R., p. 1.

construction, equipment and maintenance, the county commissioners are hereby authorized to issue from time to time bonds or notes of the county to an amount not exceeding $50,000. Each authorized issue of bonds or notes shall constitute a separate loan. Such bonds or notes shall bear on their face the words "County of Barnstable Infirmary loan, act of 1915;" shall be payable by such annual payments, beginning not more than one year after the date thereof, as will extinguish each loan within 10 years from its date; and the amount of such annual payment of any loan in any year shall not be less than the amount of the principal of the loan payable in any subsequent year. The said bonds or notes shall bear interest at a rate not exceeding 5 per cent per annum, payable semiannually; and they shall be signed by the treasurer of the county and countersigned by a majority of the county commissioners. The county may sell the said securities at public or private sale, upon such terms and conditions as the county commissioners may deem proper, but they shall not be sold for less than their par value, and the proceeds shall be used only for the purposes specified herein.

SEC. 2. The county commissioners, at the time of authorizing said loan, shall provide for the payment thereof in accordance with the provisions of section 1 of this act; and a sum sufficient to pay the interest as it accrues on the bonds or notes issued as aforesaid by the county, and to make such payments on the principal as may be required under the provisions of this act, shall be levied as a part of the county tax of the county of Barnstable annually thereafter, in the same manner in which other county taxes are levied, until the debt incurred by said loan or loans is extinguished.

SEC. 3. For the purpose of carrying out the provisions of this act the county commissioners of the county of Barnstable may purchase or lease, or take by right of eminent domain, such land, not exceeding 500 acres in extent, as they may deem necessary or convenient therefor. Damages for the taking of land or for the doing of any other act under authority hereof may be recovered in the manner provided by law for the recovery of damages in the case of land taken for highways.

SEC. 4. The county commissioners shall appoint a board of five persons to act as trustees of the infirmary, three of whom shall be physicians and residents of the county, who shall make regulations for its government, and shall appoint a superintendent and such other officers and employees as may be necessary for the proper conduct of the infirmary.

SEC. 5. The location and construction of the said infirmary shall be subject to the approval of the State department of health.

SEC. 6. The towns of the county of Barnstable supporting patients in the said infirmary shall be entitled to any payments or repayments allowed under the laws of the Commonwealth in the same manner and subject to the same conditions which govern the support of tuberculous patients in a city or town hospital.

SEC. 7. The trustees of the said infirmary may receive and care for patients who are able to pay, upon such terms as the trustees shall fix, but preference shall be given to poor patients who are under the care of public health departments within the county.

SEC. 8. The provisions of this act shall relieve the towns of the county of Barnstable from the erection of separate hospitals for the treatment of tuberculosis.

Tuberculosis—Hospital Care of Patients—Investigation by State Department of Health and Trustees of Tuberculosis Hospitals Relative to Reimbursement of Cities and Towns. (Chap. 24, Res. Mar. 23, 1915.)

Resolved, That the State department of health and the trustees of hospitals for consumptives are hereby authorized and directed to investigate the subject of reimbursing cities and towns for money expended by them in the care at hospitals of persons suffering from tuberculosis, and especially the subject matter contained in Senate Document No. 102 of the current year, and to report the result of their investigation to the general court on or before the second Wednesday of January next, together with any recommendations for legislation which said department and trustees may deem expedient.

Tuberculosis Hospitals—Subsidies to Cities and Towns for Establishment and Maintenance of—Appropriation. (Chap. 3, Special Act Jan. 27, 1915.)

SECTION 1. A sum not exceeding $129,868.44 is hereby appropriated, to be paid out of the treasury of the Commonwealth from the ordinary revenue, to certain cities and towns for amounts to which they are entitled for establishing and maintaining tuberculosis hospitals, during the period ending November 30, 1914.

Tuberculosis—County and District Hospitals—Investigation by State Department of Health Relative to Advisability of Establishment of. (Chap. 136, Res. May 28, 1915.)

Resolved, That the State department of health be authorized and directed to investigate with reference to the advisability of establishing county or district hospitals for the care and treatment of cases of tuberculosis, from cities and towns having less than 50,000 inhabitants. Said department shall report the result of its investigation to the next general court on or before the second Wednesday in January, and shall accompany its report with such recommendations for legislation as it may consider to be advisable.

Trustees of Tuberculosis Hospitals—Appropriations. (Chap. 111, Special Act Mar. 2, 1915.)

SECTION 1. The sums hereinafter mentioned are appropriated, to be paid put of the treasury of the Commonwealth from the ordinary revenue, for the expenses of the trustees of hospitals for consumptives, for the fiscal year ending on the 30th day of November, 1915, to wit:

For the salary of the secretary and clerks, a sum not exceeding $5,069.49.

For traveling and other necessary expenses of the trustees, to include printing and binding of their annual report, a sum not exceeding $4,700.

For the salary of an agent to inspect hospitals in cities and towns, $1,400.

For salary of a trained social worker to look up discharged patients, a sum not exceeding $1,200.

Indigent Sick Persons—Establishment and Maintenance of Free Beds by Towns Not Maintaining or Managing a Hospital. (Chap. 44, Act Mar. 9, 1915.)

SECTION 1. Any town not maintaining or managing a hospital may annually appropriate a sum not exceeding $500, to be paid to a hospital established in such town or in the vicinity thereof, for the establishment and maintenance of a free bed in the hospital for the care and treatment of persons certified by the selectmen of such town to be residents of the town and unable to pay for such care and treatment.

State Department of Health—Appropriations. (Chap. 258, Special Act Apr. 6, 1915.)

SECTION 1. The sums hereinafter mentioned are appropriated, to be paid out of the treasury of the Commonwealth from the ordinary revenue, for the salaries and expenses of the State department of health, for the fiscal year ending on the 30th day of November, 1915, to wit:

For general work, including the salary of the commissioner, the compensation of the health council, salaries of certain assistants, clerks, and stenographers, traveling and office expenses, a sum not exceeding $36,400.

For printing and binding the annual report, a sum not exceeding $4,000.

For the services of engineers, chemists, biologists, clerks, and other employees and experts, and for the necessary traveling and other expenses incurred for the protection of the purity of inland waters, for the examination of sewer outlets, and for the examination of the sanitary condition of certain rivers and watercourses, a sum not exceeding $56,300.

For salaries, traveling and other expenses of the inspectors of health, a sum not exceeding $37,500.

For the salary of the director of the division of communicable diseases, a sum not exceeding $4,000.

For the salary of an epidemiologist, a sum not exceeding $3,500.

For salaries and expenses for the maintenance of a diagnostic laboratory, a sum not exceeding $5,300.

For expenses of supplies to be used in connection with the enforcement of the law relative to ophthalmia neonatorum, a sum not exceeding $500.

For salaries and expenses in connection with the manufacture and distribution of antitoxin and vaccine lymph, and for making a certain investigation and study relative to the Wassermann test, a sum not exceeding $24,000.

For the salary of the director of the division of food and drugs, a sum not exceeding $3,000.

For the inspection of milk, food, and drugs, a sum not exceeding $17,500.

For salaries, traveling and other expenses in connection with slaughtering inspection and the inspection of food products treated by cold storage, a sum not exceeding $12,000.

For compensation, traveling and other expenses of the State examiners of plumbers, a sum not exceeding $5,200.

Pure Drinking Water—Required to be Furnished to Employees in Industrial Establishments. (Chap. 117, Act Mar. 30, 1915.)

Section 78 of chapter 514 of the acts of the year 1909, as affected by chapter 726 of the acts of the year 1912, is hereby amended by striking out the word "manufacturing," in the first line and also in the sixth line, and by inserting in place thereof, in each case, the word "industrial," and by striking out the words "the State inspectors of health," in the eighth line, and inserting in place thereof the words, "an inspector of the State board of labor and industries," so as to read as follows:

SEC. 78. All industrial establishments within this Commonwealth shall provide fresh and pure drinking water to which their employees shall have access during working hours. Any person, firm, association, or corporation owning, in whole or in part, managing, controlling, or superintending any industrial establishment in which the provisions of this section are violated shall, upon complaint of an inspector of the State board of labor and industries, of the board of health of the city or town, or of the selectmen of the town in which the establishment is located, be punished by a fine of $100 for each offense.

Live Stock, Dairies, and Stables on Dairy Farms—Inspection of—Charges for, Prohibited. (Chap. 109, Act Mar. 27, 1915.)

SECTION 1. It shall be unlawful for any State or municipal inspector or other officer to charge any fee for the inspection of any live stock or of any dairy, barn, or stable on any farm in which milk is produced for sale.

NEW YORK.

Communicable Diseases—Notification of Cases on Dairy Farms—Quarantine. (Chap. 2, Reg. Public Health Council, Oct. 5, 1915.)

The public health council has amended regulations 8[1] and 36[2] of chapter 2 of the sanitary code, relating to "communicable diseases," to read as follows:

REG. 8. *Reporting cases of communicable disease on dairy farms by physicians.*—When a case of Asiatic cholera, diphtheria, amebic or bacillary dysentery, epidemic cere-

[1] Reprint No. 279 from the P. H. R., p. 112. [2] Ibid., p. 117.

brospinal meningitis, epidemic or septic sore throat, paratyphoid fever, scarlet fever, smallpox, or typhoid fever exists on any farm or dairy producing milk, cream, butter, or other dairy products for sale, it shall be the duty of the physician in attendance to report immediately to the local health officer the existence on such farm or dairy of such case.

It shall be the duty of the health officer to report immediately to the State commissioner of health by telephone or telegram the existence on such farm or dairy of such case, together with all facts as to the the isolation of such case, and giving the names of the localities to which such dairy products are delivered.

This regulation shall take effect throughout the State of New York, except in the city of New York, on the 1st day of January, 1916.

REG. 36. *Minimum period of isolation.*—The minimum period of isolation, within the meaning of this code, shall be as follows:

Chicken-pox, until 12 days after the appearance of the eruption and until the crusts have fallen and the scars are completely healed.

Diphtheria (membranous croup), until two successive negative cultures have been obtained from the nose and throat at intervals of 24 hours.

Measles, until seven days after the appearance of the rash and until all discharges from the nose, ears and throat have disappeared and until the cough has ceased.

Mumps, until two weeks after the appearance of the disease and one week after the disappearance of the swelling.

Scarlet fever, until 30 days after the development of the disease and until all discharges from the nose, ears and throat, or suppurating glands, have ceased.

Smallpox, until 14 days after the development of the disease and until scabs have all separated and the scars completely healed.

Whooping cough, until eight weeks after the development of the disease or until one week after the last characteristic cough.

This regulation shall take effect throughout the State of New York, except in the city of New York, on the 1st day of January, 1916.

Tuberculosis—Duties of Health Officer when Notified of a New Case. (Chap. 2, Reg. Public Health Council, Dec. 7, 1915.)

The public health council has amended chapter 2 of the sanitary code by adding a new regulation, to be numbered 42*a*, after regulation 42 in said chapter, as follows:

REG. 42*a*. *Duties of health officer on receiving report of apparent case of tuberculosis.*—Upon receiving a report in writing of an apparent case of tuberculosis, as authorized by section 320 of the public health law, the health officer shall thereupon take the following steps:

1. If the alleged case has been previously reported to him by a physician as having tuberculosis and the latter has elected to assume the sanitary supervision thereof as permitted in section 328 of the public health law, the health officer shall ascertain promptly whether such physician is maintaining proper sanitary supervision.

2. If the alleged case has not been previously reported to him as having tuberculosis, the health officer shall take proper measures to determine whether there is reason to believe such person is affected with pulmonary tuberculosis, and, if by suitable physical or sputum examination, or both, he ascertains that the person is affected with pulmonary tuberculosis, he shall then proceed in accordance with the provisions of the public health law and the rules of the State department of health.

This regulation shall take effect throughout the State of New York, except in the city of New York, on the 1st day of March, 1916.

Milk and Cream—Pasteurization of—Requirements Governing Grade "B" Pasteurized. (Chap. 3, Reg. Public Health Council, Oct. 5, 1915.)

The public health council has amended regulation 12 [1] and the subdivision entitled "Grade B pasteurized" of regulation 13 [2] of chapter 3 of the sanitary code, relating to "milk and cream," to read as follows:

REG. 12. *Pasteurization.*—Except where a different standard of pasteurization has been adopted previous to the 1st day of September, 1914, by the local health authorities, no milk or cream shall be sold or offered for sale as pasteurized unless it has been subjected to a temperature of 142° to 145° F. for not less than 30 minutes, and no milk or cream which has been heated by any method shall be sold or offered for sale unless the heating conforms to the provisions of this regulation.

After pasteurization the milk or cream shall be immediately cooled and placed in clean containers and the containers shall be immediately sealed.

No milk or cream shall be pasteurized more than once.

This regulation shall take effect throughout the State of New York, except in the city of New York, on the 1st day of January, 1916.

REG. 13. *Designations of milk and cream restricted; grade B pasteurized.*—No milk or cream shall be sold or offered for sale as "grade B pasteurized" unless it conforms to the following requirements:

The dealer selling or delivering such milk or cream must hold a permit from the local health officer.

All cows producing such milk or cream must be healthy, as disclosed by an annual physical examination.

Such milk or cream before pasteurization must not contain more than 1,500,000 bacteria per cubic centimeter.

Such milk must not any time after pasteurization and previous to delivery to the consumer contain more than 100,000 bacteria per cubic centimeter, and such cream not more than 500,000 bacteria per cubic centimeter.

Such milk and cream must be produced on farms which are duly scored on the score card prescribed by the State commissioner of health, not less than 20 per cent for equipment and not less than 35 per cent for methods.

Such milk must be delivered within 36 hours, and such cream within 48 hours after pasteurization, unless a shorter time is prescribed by the local health authorities.

The caps or tags on the containers must be white and contain the term "grade B pasteurized," in large, bright green type, and the name of the dealer.

The provisions of this subdivision shall take effect throughout the State of New York, except in the city of New York, on the 1st day of January, 1916.

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[1] Reprint No. 279 from the P. H. R., p. 122. [2] Ibid., p. 124.

MUNICIPAL ORDINANCES, RULES, AND REGULATIONS PERTAINING TO PUBLIC HEALTH.

CRYSTAL CITY, MO.[1]

Malaria—Prevention of the Breeding of Mosquitoes. (Ord. No. 67, Jan. 8, 1916.)

SECTION 1. It shall be unlawful to have, keep, maintain, cause, or permit, within the incorporated limits of Crystal City, any collection of standing or flowing water in which mosquitoes breed or are likely to breed, unless such collection of water is treated so as to effectually prevent such breeding.

SEC. 2. The collection of water considered by section 1 of this ordinance shall be held to be those contained in ditches, ponds, pools, excavations, holes, depressions, open cesspools, privy vaults, fountains, cisterns, tanks, shallow wells, barrels, troughs (except horse troughs in frequent use), urns, cans, boxes, bottles, tubs, buckets, defective house roof gutters, tanks of flush closets, or other similar water containers.

SEC. 3. The methods of treatment of any collections of water, that are specified in section 2, directed toward the prevention of breeding of mosquitoes shall be approved by the health officer and may be any one or more of the following:

(*a*) Screening with wire netting of at least 16 meshes to the inch each way or any other material which will effectually prevent the ingress or egress of mosquitoes.

(*b*) Complete emptying every seven days of unscreened containers, together with their thorough drying or cleaning.

(*c*) Using a larvacide approved and applied under the direction of the health officer.

(*d*) Covering completely the surface of the water with kerosene, petroleum, or paraffin oil once every seven days.

(*e*) Cleaning and keeping sufficiently free of vegetable growth and other obstructions, and stocking with mosquito-destroying fish; absence of half-grown mosquito larvæ to be evidence of compliance with the measure.

(*f*) Filling or draining to the satisfaction of the health officer.

(*g*) Proper disposal of tin cans, tin boxes, broken or empty bottles, and similar articles likely to hold water.

SEC. 4. The natural presence of mosquito larvæ in standing or running water shall be evidence that mosquitoes are breeding there, and failure to prevent such breeding within three days after notice by the health officer shall be deemed a violation of this ordinance.

SEC. 5. Should the person or persons responsible for conditions giving rise to the breeding of mosquitoes fail or refuse to take necessary measure to prevent the same, within three days after due notice has been given to them, the health officer is hereby authorized to do so, and all necessary costs incurred by him for this purpose shall be a charge against the property owner or other person offending as the case may be.

SEC. 6. The health officer shall enforce the provisions of this ordinance, and for this purpose the health officer or any person or persons acting under his authority, may at all reasonable times enter in and upon any premises within his jurisdiction; and any person or persons charged with any of the duties imposed by this ordinance failing within the time designated by this ordinance or within the time stated in the

[1] This city is smaller than the cities whose ordinances are usually published in the Public Health Reports, but the ordinance is here printed because ordinances of this kind are rare.

notice of the health officer, as the case may be, to perform such duties, or to carry out the necessary measures to the satisfaction of the health officer, shall be deemed guilty of violation of this ordinance, and for each day after the expiration of this time that said person fails to comply with this ordinance shall be deemed guilty of a separate violation of this ordinance.

SEC. 7. The person held under this ordinance to be responsible for the correction of conditions on premises giving rise to or likely to give rise to breeding of mosquitoes shall be the owner, and in his absence the agent of owner of said premises: *Provided*, Any tenant causing or permitting said conditions without the consent of the owner or agent shall be held responsible. Where a trespasser or other person is known to cause or to have caused said conditions without the consent of owner, agent, or tenant, then such person will be held responsible.

SEC. 8. Any person who shall violate any provision of this ordinance shall on each conviction be subject to a fine of not more than $25, or be imprisoned for not more than 10 days, or both, in the discretion of the court. All acts or parts of acts in conflict with this ordinance are hereby repealed, and this ordinance shall be in full force and effect immediately after its approval.

RICHMOND, VA.

Milk and Cream—Sale of—Grading and Labeling. (Reg. Bd. of H., Dec. 13, 1915.)

On and after February 15, 1916, no milk or cream from any herd not free from disease, as determined by the tuberculin test and physical examinations, shall be sold, offered or exposed for sale, or otherwise disposed of, in the city of Richmond, unless said milk or cream has been pasteurized under the supervision of the Richmond Health Department and in accordance with the rules and regulations of the board of health of the city of Richmond. Milk and cream from herds free from disease, as determined by the tuberculin test and by physical examinations, and conforming to certain other requirements, as hereinafter provided for, may be sold either raw or pasteurized.

For the satisfactory enforcement of the above rule, and in order to make plain to the consumer the distinction between milk from tested and untested herds and between the raw and the pasteurized products, the following grades of milk and cream are hereby established by the board of health, to go into effect on February 15, 1916.

GRADE A MILK.

Grade A raw milk shall come from cows free from disease, as determined by the tuberculin test and physical examinations by a qualified veterinarian, approved by the chief health officer. It shall be produced and handled by employees free from disease, as determined by medical inspection by a qualified physician. It shall be produced under sanitary conditions such that the bacteria count at the time of delivery to the consumer shall not exceed 25,000 per cubic centimeter in the cooler months (that is, from November 1 to March 31, inclusive) or 50,000 during the rest of the year (that is, from April 1 to October 31, inclusive). Dairy farms producing this grade of milk shall score at least 80 points on the score card of the United States Bureau of Animal Industry, of which not less than 45 points shall be for "methods."

Grade A pasteurized milk shall conform in every respect to the requirements for grade A raw milk. The bacteria count shall at no time prior to pasteurization exceed the limits allowed for grade A raw milk, and the bacteria count when delivered to the consumer shall not exceed 5,000 per cubic centimeter.

GRADE B MILK.

Grade B milk shall come from cows free from disease as determined by physical examinations, of which at least one each year shall be by a qualified veterinarian approved by the chief health officer. It shall be produced and handled under sanitary condi-

tions such that the bacteria count at no time exceeds 250,000 per cubic centimeter. All milk of this class shall be pasteurized under the official supervision of the Richmond Health Department, and the bacteria count at the time of delivery to the consumer shall not exceed 25,000 per cubic centimeter. Dairy farms producing this class of milk shall score at least 70 on the score card of the United States Bureau of Animal Industry, but a score of not less than 65 will be permitted until June 1, 1916.

CREAM.

Cream shall be classified in the same grades as milk, in accordance with the requirements for the grades of milk, excepting the bacteria standards. In 20 per cent cream the bacteria count shall not exceed five times the count allowed in the corresponding grade of milk.

MINIMUM REQUIREMENTS.

Nothing in the above definition of grades shall be construed as in any way permitting the sale of milk or cream, in any of the established grades, unless all the rules and regulations of the Richmond Board of Health are complied with.

DE-GRADING.

In the event that any milk producer holding a permit for grade A milk or cream shall fall below the requirements for said grade, but not below the requirements for grade B, his permit for the sale of grade A shall be suspended or revoked and a permit for grade B may be issued. In the event that any milk producer shall fall below the requirements for grade B milk or cream, his permit for the sale of milk or cream in the city of Richmond shall be suspended or revoked.

LABELING.

On and after February 15, 1916, all milk and cream shall be labeled in accordance with the grades hereinbefore established. All compulsory labeling of milk as delivered to the consumer shall be on the bottle cap and shall be in uncondensed Gothic type not less than one-eighth inch in height, except the letter stating the grade, which shall be not less than three-eighths inch in height. Such label shall state the grade of the milk and whether raw or pasteurized. If pasteurized, the day of the week on which it was pasteurized shall be given. The nature of the product—milk or cream—shall be stated.

No label shall be used until a sample has been submitted to the chief health officer and approved by him.

No grades of milk or cream except those herinbefore provided for are officially recognized by the board of health, and no other or additional statement of the grade of any milk or cream shall appear on any label when delivered to the consumer unless approved in each case by the chief health officer.

SALEM, MASS.

Dwelling Houses—Construction and Maintenance. (Ord. May 25, 1915.)

PART I. GENERAL PROVISIONS.

SECTION 1. This ordinance shall be known as the housing ordinance for the city of Salem.

SEC. 2. *Definitions.*—Certain words in this ordinance are defined for the purpose thereof as follows:

(1) *Dwelling.*—A "dwelling" is any house or building or portion thereof which is occupied in whole or in part as the home, residence, or sleeping place of one or more persons either permanently or transiently.

(2) *Classes of dwellings.*—For the purposes of this ordinance dwellings are divided into the following classes: (*a*) "private dwellings," (*b*) "two-family dwellings," and (*c*) "multiple dwellings."

(*a*) A "private dwelling" is a dwelling occupied by one family only.

(*b*) A "two-family dwelling" is a dwelling occupied by two familes only.

(*c*) A "multiple dwelling" is a dwelling occupied otherwise than as a private dwelling or two-family dwelling.

(3) *Classes of multiple dwellings.*—All multiple dwellings for the purposes of this ordinance are divided into two classes, viz: class A and class B.

Class A.—Multiple dwellings of class A are dwellings which are occupied more or less permanently for residence purposes by several families and in which the rooms are occupied in apartments, suites, or groups. This class includes tenement houses, flats, apartment houses, apartment hotels, bachelor apartments, kitchenette apartments, and all other dwellings similarly occupied, whether specifically enumerated herein or not.

Class B.—Multiple dwellings of class B are dwellings which are occupied, as a rule transiently, as the more or less temporary abiding place of more than six individuals who are lodged, with or without meals, and in which as a rule the rooms are occupied singly. This class includes hotels, lodging houses, boarding houses, furnished room houses, lodgings, club houses, dormitories, convents, private hospitals, private asylums, and all other dwellings similarly occupied, whether specifically enumerated herein or not. A "hotel" is a building in which persons are lodged for hire and in which there are more than 40 rooms, a public dining room for the accommodation of at least 40 guests, and a general kitchen. National, State, and county institutions are exempt from the provisions of this ordinance.

(4) *Yards.*—A "rear yard" is an open unoccupied space on the same lot with a dwelling between the extreme rear lines of the house and the extreme rear line of the lot. A "front yard" is an open unoccupied space between the front line of the house and the front line of the lot. A "side yard" is an open unoccupied space between the side line of the house and the side line of the lot extending from the street or front yard to the rear yard.

(5) *Occupied spaces.*—The provisions of the Salem Building Ordinance, section 27, page 12, to apply.

(6) *Courts.*—A "court" is an open unoccupied space, other than a yard, on the same lot with a dwelling. A court not extending to the street or front or rear or side yard is an inner court. A court extending to the street or front or rear or side yard is an outer court.

(7) *Lots.*—A "corner lot" is a lot situated at the junction of two or more intersecting streets. A lot other than a corner lot is an "interior lot."

(8) *Front, rear, and depth of lot.*—The "front" of a "lot" is that boundary line which borders on the street. In the case of a corner lot the owner may elect by statement on his plans either street boundary line as the front. The "depth" of a "lot" is the dimension measured from the front of the lot to the extreme rear line of the lot. In the case of irregularly shaped lots the mean depth shall be taken.

(9) *Basement, cellar, half story, or attic.*—A "basement" is a story partly underground but having at least 60 per cent of its height above the curb level and also 60 per cent of its height above the highest level of the adjoining ground. A basement shall be counted as a story.

A "cellar" is a story having more than 40 per cent of its height below the curb level, or below the highest level of the adjoining ground. A cellar shall not be counted as a story for purposes of height measurement. If any part of a story is in that part the equivalent of a basement or cellar, the provisions of this ordinance relative to basements and cellars shall apply to such part of said story.

A "half story" or attic is any story included in the roof, the cubic contents of which, exclusive of blind attic not exceeding 3 feet in height at the highest point, is not more than 60 per cent of the cubic contents of the first story.

(10) *Common hallway.*—A "common hallway" is a hallway, corridor, or passageway not within the exclusive control of one family.

(11) *Stair hallway.*—A "stair hallway" is a common hallway and includes the stairs, stair landings, and those portions of the building through which it is necessary to pass in going between the entrance floor and the roof.

(12) *Alcove room.*—An "alcove room" is any alcove used for sleeping purposes.

(13) *Height.*—The "height" of a dwelling is the perpendicular distance measured in a straight line from the curb level, or from the finished grade line of the lot where such grade is higher than the curb, to the average of the height of the gable in the case of pitched roofs and to the highest point of the roof beams in the case of flat roofs, except that in the case of flat roofs a parapet exceeding 3 feet in height shall be considered a part of the height of the building, the measurements in all cases to be taken through the center of the front of the house. Where a dwelling is on a corner lot and there is more than one grade or curb level, the measurements shall be taken through the center of the front on the street having the lowest elevation.

(14) *Curb level.*—The "curb level" is the level of the established curb in front of the building measured at the center of such front. Where no curb has been established the city engineer shall establish such curb level or its equivalent for the purposes of this ordinance.

(15) *Construction.*—The provisions of the Salem building ordinance, page 10, classification and erection of buildings, to apply.

PART II. DWELLINGS HEREAFTER ERECTED.

TITLE I. LIGHT AND VENTILATION. SEC. 3. *Height.*—No dwelling hereafter erected shall have more than one legally habitable story for each full 10 feet of the width of the street, unless such house be set back from the street a distance equal to the excess of its height over that permitted at the street line. Width of street shall be measured from building line to building line.

On a corner lot the height shall be governed by the width of the wider street, as above, but this height shall not extend along the narrower street a distance greater than twice the width of said narrower street.

On any street hotels may exceed the legal height of dwellings on said street by not more than two stories, but in no case shall a hotel or any other dwelling exceed 70 feet in height.

SEC. 4. *Yards.*—Immediately behind every dwelling hereafter erected there shall be a rear yard extending across the entire width of the lot and at every point open and unobstructed from the ground to the sky, except that in the case of hotels the rear yard may start at the floor level of the lowest bedroom story. Every part of such yard shall be directly accessible from every other part thereof. The depth of said yard shall be measured at right angles from the extreme rear of the house toward the rear line of the lot. Where the rear of the lot abuts on a public alley or right of way dedicated to public use for the full width of the lot, the depth of the lot may be measured to the middle line of such alley or right of way; where there is no such alley or right of way the measurements shall be taken to the rear lot line. If the dwelling is four stories or less in height the depth of the yard in the case of interior lots shall be not less than 10 feet, and the depth of the yard in the rear of corner lots shall be not less than 5 feet. If the dwelling exceeds four stories in height, the depths above prescribed in the case of interior lots shall be increased 5 feet and in the case of corner lots shall be increased 2 feet for each story above four stories. In the case of corner lots with streets on three sides the rear yard need not extend across the full width of the lot, but only to the median line. When a lot upon which a dwelling is built is

bounded on every side by a street or abuts at the rear upon a railroad right of way, a cemetery, or a public park, the rear yard may be omitted. Any portion of a corner lot distant more than 75 feet from the corner line shall be treated as an interior lot.

When rear of tenements have their exposure on side line of lots there shall be left 10 feet of open space between said tenement and said side line in addition to the provision for rear yards.

SEC. 5. *Side yards.*—A side yard shall be at every point open and unobstructed from the ground to the sky. Cornices are permitted, but in no case shall they extend more than 18 inches beyond the building line. The width of the side yard for dwellings hereafter erected shall be as follows:

(*a*) In the case of private dwellings and two-family dwellings of second, third, fourth, or fifth class (see Salem building ordinance, sections 21 to 24, inclusive) which do not exceed two and one-half stories in height the width of such side yard measured to the side lot line shall never be less than 5 feet in any part.

(*b*) The provisions of this section do not apply to side yards on the side street of a corner lot excepting the provision as to adjacent basement rooms.

SEC. 6. *Courts.*—The sizes of all courts in dwellings hereafter erected shall be proportionate to the height of the dwelling. No court shall be less in any part than the minimum sizes prescribed in this section except as provided in section 9. The minimum width of a court for a dwelling two and one-half stories or less in height shall be 10 feet, and the width shall increase 1 foot for each additional full story above five stories. The length of an inner court shall never be less than twice the minimum width prescribed by this section. The length of an outer court shall never be greater than four times its minimum width prescribed by this section. The depth of all courts adjoining the lot line shall be measured to the lot line and not to an opposite building.

SEC. 7. *Courts open at top.*—No court of a dwelling hereafter erected shall be covered by a roof or skylight, but every court shall be at every point open from the ground to the sky unobstructed, "except that in the case of hotels, courts may start at the floor level of the lowest bedroom story; and in the case of other multiple dwellings where there are stores or shops on the entrance story, courts may start at the top of such entrance story."

SEC. 8. *Air intakes for courts.*—"In all dwellings hereafter erected every inner court shall be provided with one or more horizontal air intakes at the bottom. One such intake shall always communicate directly with the rear yard, and shall consist of a passageway not less than 3 feet wide and 7 feet high which shall be left open, or be provided with an open gate at each end."

SEC. 9. *Extensions or offsets to courts.*—Extensions or offsets to courts in dwellings hereafter erected are permitted for the purpose of lighting kitchenettes, pantries, bathrooms, and water-closets only, but no such extension or offset shall be less than 6 feet in width in any part; its depth may be less but never greater than its width. Such dimensions shall be deemed the minimum dimensions for a dwelling two and one-half stories in height or less, and shall increase 1 foot for each full story above two stories.

SEC. 10. *Angles in courts.*—Nothing contained in the foregoing sections concerning courts shall be construed as preventing the cutting off of the corners of said courts, provided that the running length of the wall across the angle of such corner does not exceed 7 feet.

SEC. 11. If a dwelling house is built behind or in front of another dwelling house on the same lot, there shall be left between the two buildings a yard extending across the full width of the lot, and the distance between the two buildings shall be not less than 50 per cent greater than the depth required herein for a rear yard for a building of the height of the higher of the two buildings. There shall be behind the rear dwelling a rear yard as herein required, and if this rear yard does not have access

directly to a street, alley, or other public way then there shall be a passageway not less than 10 feet wide leading from the yard between the two buildings directly to a street, alley, or other public way. The rear dwelling house shall in no case be built to a greater height than is permitted for the front dwelling house.

Where a dwelling is erected by the side of but not contiguous to another building on the same lot, there shall be left between the two buildings a space equal to the side yard or yards herein required for the two buildings.

SEC. 12. *Rooms, lighting and ventilation of.*—In every dwelling hereafter erected every room shall have at least one window opening directly upon the street, or upon a yard or court, of the dimensions specified in this article and located on the same lot, and such window shall be so located as to properly light all portions of such room. This provision shall not, however, apply to rooms used as art galleries, swimming pools, gymnasiums, squash courts, or for similar purposes, nor to public rooms in hotels, provided such rooms are adequately lighted and ventilated.

SEC. 13. *Window area in rooms.*—In every dwelling hereafter erected the total window area in each room shall be at least one-seventh of the superficial floor area of the room, and the whole window shall be made so as to open in all its parts. At least one such window shall be not less than 12 square feet in area between the stop beads. In multiple dwellings the top of at least one window shall be not less than 7 feet above the floor.

SEC. 14. *Rooms, size of.*—In every dwelling hereafter erected all rooms, except water-closet compartments and bathrooms, shall be of the following minimum sizes: Every room shall contain at least 90 square feet of floor area; no room shall be in any part less than 7 feet wide. In multiple dwellings of class A in each apartment, group, or suite of rooms there shall be at least one room containing not less than 150 square feet of floor area.

SEC. 15. *Room, height of.*—No room in a two-family or multiple dwelling hereafter erected shall be in any part less than 8 feet high from the finished floor to the finished ceiling, except that a half-story room need be 8 feet in height in but one-half of its area.

SEC. 16. *Alcove rooms.*—Every alcove room in a dwelling shall have an opening into the main room of not less than 60 per cent of the length of the wall of the room on that side, and shall not exceed 7 feet in depth. The height of the alcove shall not be less than that of the room into which it opens.

SEC. 17. *Privacy.*—In every dwelling hereafter erected, access to every living room and to every bedroom and to at least one water-closet compartment shall be had without passing through a bedroom.

SEC. 18. *Common hallways, lighting and ventilation of.*—In every dwelling hereafter erected, except hotels, every common hallway and stair hallway shall have at each story at least one window containing not less than 12 square feet opening, measured between stop beads, opening directly upon the street or upon a yard or court of the dimensions specified in this ordinance and located on the same lot. Such window in a common hallway shall be at the end of said hallway with a natural direction of the light parallel to the hallway's main axis. The top of such a window shall be not less than 7 feet above the floor, and shall be made so as to open in all its parts. A sash door containing an equal amount of glazed surface shall be deemed the equivalent of a window in this section. In every multiple dwelling three or more stories in height hereafter erected there shall be in the roof directly over each stair well a ventilating skylight provided with ventilators, having a minimum opening of 40 square inches and with fixed or movable louvers.

SEC. 19. *Outside porches.*—In dwellings hereafter erected, roofed-over outside porches which extend above the top of the entrance story shall not be erected outside of and adjoining windows required by this ordinance for the lighting or ventilation of rooms or hallways; they may, however, open from windows or doors supplementary

to those required by this ordinance, provided they do not diminish the required amount of light and ventilation of such rooms. The term "outside porches" shall include outside platforms, balconies, and stairways. All such outside porches shall be considered as parts of the building and not as parts of the yards or courts or other unoccupied area.

SEC. 20. No dwelling erected under a permit for a private dwelling or a two-family dwelling shall be occupied by more than two families.

TITLE 2. SANITATION. SEC. 21. *Basement rooms.*—In dwellings hereafter erected no room in the basement shall be occupied for living purposes, unless in addition to the other requirements of this ordinance such room shall have sufficient light and ventilation, shall be well drained and dry, and shall in the opinion of the board of health be fit for human habitation.

SEC. 22. *Cellars, damp proofing and lighting of.*—In every dwelling hereafter erected the walls below the ground level and the cellar or lowest floor shall be made damp proof to the satisfaction of the inspector of buildings. All cellars in dwellings hereafter erected shall be properly lighted with windows and ventilated in all their parts to the satisfaction of the board of health, and shall not be occupied for living purposes.

SEC. 23. *Drainage of courts, areas, and yards.*—In every dwelling hereafter erected all courts, areas, and yards shall be properly graded and drained. And when necessary in order to keep such premises in a sanitary condition such courts, areas, or yards, or such portion thereof as the board of health may order, shall be properly paved, or connected with the sewer.

SEC. 24. *Sinks.*—In every dwelling hereafter erected there shall be provided a proper sink or washbowl exclusive of any sink in the cellar. In two-family dwellings and in multiple dwellings of class A there shall be such a sink or washbowl in each apartment, suite, or group of rooms.

SEC. 25. *Water-closets.*—In every dwelling hereafter erected there shall be a separate water-closet. Each such water-closet shall be placed in a compartment entirely separated from every other water-closet; such compartment shall be not less than 3 feet wide, and shall be inclosed with partitions which shall extend to the ceiling. Every such compartment shall have a window opening directly upon a street, or upon a yard or court of the minimum sizes prescribed by this ordinance and located upon the same lot.

In two-family dwellings and in multiple dwellings of class A hereafter erected there shall be a separate water-closet arranged and constructed as above provided located within each apartment, suite, or group of rooms; except that where there are apartments of but one or two rooms there shall be at least one water-closet for every two such apartments, and such water-closet shall not open into any apartment but shall be accessible through a common hallway, and the door thereof shall be provided with lock and keys, and such compartments and water-closet shall comply in all other respects with the provisions of this ordinance.

Nothing contained in this section shall be so construed as to prohibit in any dwelling a general toilet room containing several water-closet compartments separated from each other by dwarf partitions, provided such toilet room is for the use of one sex only and is adequately lighted and ventilated to the satisfaction of the board of health, and that such water-closets are supplemental to the water-closet accommodations required by other provisions of this section. In multiple dwellings every water-closet compartment shall be provided with proper means of lighting the same at night. No drip trays shall be permitted on any water-closet. No water-closet fixture shall be inclosed with any woodwork. No water-closet shall be placed out of doors; nor in the cellar of any multiple dwelling without a written permit from the board of health, and then only in case such cellar closet is lighted and ventilated as provided in sections 12 and 13.

SEC. 26. *Sewer connection, plumbing and water supply.*—The provisions of the Salem plumbing ordinance to apply.

PART III. ALTERATIONS.

SEC. 27. *Percentage of lot occupied.*—No dwelling shall hereafter be enlarged or its lot diminished, or other building placed on its lot, so that a greater percentage of the lot shall be occupied by buildings or structures than provided in section 27 of the Salem building ordinance.

SEC. 28. No dwelling shall be increased in height so that the said dwelling shall exceed the width of the widest street on which it abuts, plus the open unoccupied lot space between said dwelling and said street.

SEC. 29. *Yards.*—No dwelling shall hereafter be enlarged or its lot be diminished, or other building placed on the lot, so that the rear yard or side yard shall be less in size than the minimum sizes prescribed in sections 4 and 5 of this ordinance for dwellings hereafter erected.

SEC. 30. *New courts in existing dwellings.*—Any court hereafter constructed in a dwelling erected prior to the passage of this ordinance used to light or ventilate rooms or water-closet compartments shall comply in all respects with the requirements of sections 6 to 10 of this ordinance.

SEC. 31. *Additional rooms and hallways.*—Any additional room or hallway that is hereafter constructed or created in a dwelling shall comply in all respects with the provisions of part 2 of this ordinance, except that it may be of the same height as the other rooms on the same story of the dwelling.

SEC. 32. *Lighting and ventilation.*—No dwelling shall be so altered or its lot diminished that any room or common hallway or stairs shall have its light or ventilation diminished in any way not approved by the board of health.

SEC. 33. *Alcove rooms.*—No part of any room in a dwelling shall hereafter be inclosed or subdivided so as to make an alcove room, unless such room complies with the requirements of section 16 of this ordinance.

SEC. 34. *Skylights.*—All skylights hereafter placed in a multiple dwelling shall be provided with ventilators having a minimum opening of 40 square inches and also with either fixed or movable louvers or with movable sashes, and shall be of such size as may be determined to be practicable by the board of health.

SEC. 35. *Water-closet accommodations.*—Every water-closet hereafter placed in a dwelling, except one provided to replace a defective or antiquated fixture in the same location, shall comply with the provisions of section 24 of this ordinance relative to water-closets in dwellings hereafter erected. Except that in the case of a new water-closet installed on the top floor of an existing dwelling, a ventilating skylight open to the sky may be used in lieu of the window required by section 24.

PART IV. IMPROVEMENTS.

SEC. 36. *Rooms, lighting and ventilation of.*—No room in a dwelling erected prior to the acceptance of this ordinance shall hereafter be occupied for living purposes unless it shall be provided with as much light and ventilation to the outer air as may be deemed necessary by the board of health.

SEC. 37. *Common hallways and stairs, lighting and ventilation of.*—In all dwellings erected prior to the passage of this ordinance the common hallways and stairs shall be provided with as much light and ventilation to the outer air as may be deemed necessary by the board of health.

SEC. 38. *Sinks and water-closets.*—In all dwellings erected prior to the passage of this ordinance, the woodwork inclosing sinks and water-closet fixtures shall be removed and the space underneath the same shall be left open and put in sanitary condition when deemed necessary by the board of health.

SEC. 39. *Privy vaults, school sinks, and water-closets.*—The provisions of the Salem Board of Health Rules and Regulations and Salem Plumbing Ordinance to apply.

SEC. 40. *Shafts and courts.*—In every multiple dwelling there shall be at the bottom of every shaft and interior court a door giving sufficient access to such shaft or court to enable it to be properly cleaned: *Provided*, That where there is already a window giving proper access to such shaft or court, such window shall be deemed sufficient.

PART V. MAINTENANCE.

SEC. 41. The board of health may require that common hallways in multiple dwellings be lighted during such hours of the day or night as in their opinion may be necessary.

SEC. 42. *Water-closets in cellars.*—No water-closet shall be permitted in the cellar of any multiple dwelling, except as provided in section 24.

SEC. 43. *Basement and cellar rooms.*—The provisions of the Salem Building Ordinance, section 39, to apply.

SEC. 44. *Water-closets and sinks.*—In all dwellings the floor or other surface beneath and around water-closets and sinks shall be maintained in sanitary condition to the satisfaction of the board of health.

SEC. 45. *Repairs and drainage.*—Every dwelling and all the parts thereof shall be kept in sanitary condition and all rain water shall be so drained and conveyed therefrom as not to cause dampness in the walls and ceilings.

SEC. 46. *Water supply.*—Every dwelling shall have within it at least one proper sink with running water furnished in sufficient quantity at one or more places exclusive of the basement and cellar. In two-family dwellings and multiple dwellings of class A there shall be at least one such sink, accessible to each family on the floor occupied by said family without passing through any other apartment.

SEC. 47. *Cleanliness of dwelling.*—The owner or occupants of every dwelling shall cause every part of such dwelling to be kept clean and free from any accumulation of dirt, filth, garbage, or other refuse matter in or on the same, or in the passages, areas, yards, courts, and alleys appurtenant thereto. Such owner or occupant shall thoroughly cleanse or cause to be cleansed any part of such dwelling or premises whenever ordered so to do by the board of health.

SEC. 48. *Receptacles for ashes, garbage, and rubbish.*—The owner or occupants of every dwelling shall provide and maintain for said dwelling proper and suitable water-tight metal receptacles, with covers, for holding garbage. Chutes and bins for garbage are prohibited.

SEC. 49. *Prohibited uses (regarding animals).*—The provisions of the Salem Board of Health Rules and Regulations, regulations 39 and 40 to apply.

SEC. 50. *Materials detrimental to health.*—No dwelling nor any part thereof, nor of the lot upon which it is situated, shall be used as a place of storage, keeping, or handling of any article dangerous or detrimental to life or health.

SEC. 51. *Certain dangerous businesses.*—There shall be no transom, window, or door opening into a common hallway from any part of a multiple dwelling where paint, oil, drugs, or spirituous liquors are stored or kept for the purpose of sale or otherwise. This provision shall not apply to hotels.

SEC. 52. *Janitor or housekeeper.*—In any multiple dwelling in which the owner thereof does not reside there shall be a janitor, housekeeper, or other responsible person who shall have charge of the same, if the board of health shall so require.

SEC. 53. *Overcrowding.*—The provisions of the Salem Board of Health Rules and Regulations, regulation 25 to apply.

SEC. 54. *Lodgers.*—No dwelling, nor any part thereof, shall be used for the letting of more than six lodgings without the consent in writing of the board of health, and except in multiple dwellings of class B such consent shall not apply to more than eight persons.

PART VI. REQUIREMENTS AND REMEDIES.

SEC. 55. *Lot requirements.*—In addition to the requirements of sections 2 to 5, inclusive, of the building ordinance before the construction or alteration of a dwelling is commenced, and before the construction or alteration of any building or structure on the same lot with a dwelling, the owner or his agent or architect shall submit to the city engineer and building inspector a plan of the lot showing the dimensions of the same, the location of the proposed building, and all other buildings on the lot, such plan to be made upon blanks or forms to be furnished by the building inspector.

After such plan has been approved by the building inspector the area of land described in such plan shall be deemed a lot for the purposes of this ordinance, excepting that in every case the size and dimensions of such lot shall be such as to comply with the other requirements of the ordinances.

SEC. 56. *Buildings converted or altered.*—A building not a dwelling if hereafter converted or altered to such use shall, when so altered, conform to the requirements for new construction and shall thereupon become subject to all the provisions of this ordinance relative to dwellings hereafter erected. A dwelling of one class if hereafter altered or converted to another class shall, when so altered, conform to all the provisions of this ordinance relative to such other class.

SEC. 57. *Alterations and change in occupancy.*—No dwelling hereafter erected shall at any time be altered so as to be in violation of any provision of this ordinance. And no dwelling erected prior to the passage of this ordinance shall at any time be altered so as to be in violation of those provisions of this ordinance applicable to such dwelling. If any dwelling or any part thereof is occupied by more families than provided in this ordinance, or is erected, altered, or occupied contrary to the provisions of this ordinance the board of health shall cause such dwelling to be vacated. And such dwelling shall not again be occupied until it or its occupation, as the case may be, has been made to conform to the law.

SEC. 58. *Time for compliance.*—All improvements specifically required by this ordinance upon dwellings erected prior to the date of its adoption shall be made within one year from said date, except that in cases deemed urgent or necessary by the board of health such improvements may be required at such earlier period as they may order.

SEC. 59. *Inspection of dwellings.*—The board of health shall cause a thorough inspection to be made of every multiple dwelling and the premises connected therewith at least once a year, and shall also make similar inspections of all dwellings as frequently as may be necessary.

SEC. 60. *Enforcement.*—It shall be the duty of the board of health to enforce the provisions of this ordinance except where otherwise provided.

SEC. 61. Whoever violates any of the provisions of this ordinance shall be liable to a penalty not exceeding $100 for each violation thereof.

SEC. 62. All ordinances or parts of ordinances inconsistent with the foregoing are hereby repealed.

SEC. 63. *When to take effect.*—This ordinance shall take effect 10 days after its final passage.

SAN DIEGO, CAL.

Stables—Construction and Maintenance. Manure—Care and Disposal. (Ord. No. 6383, Nov. 10, 1915.)

SECTION 1. It shall be unlawful for any person, firm, or corporation to construct or use any buildings or premises not in such use at the time this ordinance takes effect as a stable, barn or yard for horses, mules, or other animals, of a kind ordinarily used for draught or riding or commercial or domestic purposes, without first obtaining

a written permit from the board of health, specifying the name of the permittee and the location of the buildings or premises to be so used, and the number of animals intended to be kept therein.

SEC. 2. The floor of all structures or premises hereafter constructed and intended to be used for the purpose of housing or stabling horses, mules, or other such animals must be reasonably impervious to moisture and be kept free from excreta and in a sanitary condition. All such structures shall be whitewashed with reasonable frequency.

SEC. 3. Every person, firm, or corporation now or hereafter maintaining any stable, barn, or other place in which manure, animal excreta, or stable refuse accumulates, shall provide a galvanized iron, tin, zinc, or other metal-lined box or bin within the area walls of the said stable, barn or other such place; said box or bin in a stable, barn, or place with a capacity of 10 or more of the animals mentioned in section 1 shall be vented by means of a duct or flue not less than 12 inches square extending through the roof. The termination of said vent shall be carried above the roof of adjoining premises, and in no instance be less than 10 feet from any window or light well. Boxes or bins in stables, barns, or places of a smaller capacity shall be ventilated in accordance with a written permit to be obtained from the board of health. No person, firm, or coporation having charge of such stable, barn, or place shall keep any manure or animal excreta or permit any manure or animal excreta to be kept in or upon any portion of the premises other than the bin or pit described, nor shall any such bin or pit be allowed to be overfilled. All manure, animal excreta, or stable refuse must be removed from such stable, barn, or place at least semiweekly, and at all times shall such stable, barn, or place, and every part and appurtenance thereof, be kept in a clean and sanitary condition. No ventilators or windows which may be used as ventilators shall be constructed in the area walls of the stable if within 10 feet of adjacent property lines, except by special written consent of the board of health. All stables and barns must be ventilated by means of louver ventilators in the roof, or by openings in area walls where said walls are more than 10 feet from adjacent property lines, except as herein provided.

SEC. 4. It shall be unlawful for any person, firm, or corporation to use any stable, barn or other place where any animals are kept as a place of storage for fruits, vegetables, meats, milk or any other foodstuffs for human consumption.

SEC. 5. It shall be unlawful for any person, firm, or corporation to hereafter construct or maintain in the city of San Diego, Cal., within 50 feet of any residence, dwelling place, schoolhouse, or church, any structure or inclosure for more than four horses, mules, or other animals mentioned in section 1 hereof, excepting cows or cattle, without a special written permit from the board of health.

SEC. 6. It shall be unlawful for any person, firm, or corporation to remove, transport or carry manure, animal excreta or stable refuse except in a tight vehicle which must be effectually covered with canvas or other covering so as to prevent the contents from being dropped, or to remove, transport, or carry manure without a written permit from the board of health certifying its approval of the construction of such vehicle.

SEC. 7. It shall be unlawful for any person, firm, or corporation to load manure, animal excreta or stable refuse for transportation upon any vehicle elsewhere than within the premises from which the same is to be removed, or to remove, transport, or carry manure or stable refuse through the public streets in such manner as to permit the same to fall upon any street; or to unload, deposit or store manure, animal excreta, or stable refuse anywhere within the city without being treated by a larvicide approved by and under the supervision of the board of health.

SEC. 8. Any person, firm, or corporation violating the provisions of this ordinance shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than $50 nor more than $500, or by imprisonment in the city jail not exceeding 6 months, or by both such fine and imprisonment.

Chewing Gum—Throwing Away of, in Public Places Prohibited. (Ord. No. 6422, Dec. 27, 1915.)

SECTION 1. That it is hereby declared to be unlawful for any person to throw, deposit, or place any masticated chewing gum upon any floor or furniture of any public building, hotel, conveyance, restaurant, or place of amusement, or upon any public sidewalk.

SEC. 2. That any person violating this ordinance shall be deemed guilty of a misdemeanor, and shall be fined not exceeding $10, or imprisoned in the city jail not exceeding two days.

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